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MR. HORSFORD'S LETTERS.—NO. XI.

MANAGEMENT OF FORESTS IN GERMANY.

Giessen, Aug. 14, 1845.

MR. TUCKER—I have just returned from a long walk with the University Professor of Forest Science. Our course lay through an interesting section of the ten thousand morgens under his direction, and enabled me to gather from what I saw and from his conversation, many facts in the range of forest culture in Germany, that I am confident your readers will not be unwilling to share with me.

The present system of forest regulation, in its detail, was instituted in 1818. Previous to that period the woodlands were planted, trained and cut for timber, without particular scientific direction. Naturally enough, there were many instances of exception to the best modes, in the growth, preservation, and removal of wood. The government saw clearly that in a century or two, at the farthest, Hessa would be robbed of its forest, and in great wisdom took the entire control of the woodlands into its own hands. Now each town and village has its specific amount of wood provided each year, and at the lowest price consistent with the expenditures necessary to the well-being of the forest-lands. The Mayor and Burgomasters receive so many cords from the forest director—each town and village an amount proportioned to its population.

At the commencement of this system the people thought the act oppressive, but now the re-institution of the old arrangement would be regarded as a great misfortune.

The whole is managed with an economy that would, to most Americans, to whom wood has as yet comparatively little value, seem quite uncalled for. But it is not so. The saving of the German peasantry has quite as important a relation to their happiness as their accumulation.

The planting of seeds, propagation, transplanting, trimming and constant attendance upon the trees till fit for cutting, and the conversion of stems, branches, and roots into firewood, is every part of it, under the most intelligent direction; and some of your readers will be surprised, as I was, to learn that the course of study which young men must pursue to fit them for the

posts of forest director under government, is as long and difficult as that of medicine. Even this does not give a just idea. For example: A student who has attended two full courses of medical lectures, in the state of New-York, having previously and in current time studied three years with a practising physician, is upon examination, admitted to the privileges and emoluments of a medical man. Here, he must not only have heard the courses of lectures, but he must have studied chemistry in the laboratory, conducting a systematic course of analytical chemistry. He must have studied pharmacy with an apothecary, making his preparations; he must have presented his collections in botany, (and these, with an acquaintance of mine, who hopes to win the degree of Dr. at the close of the current year, comprise about 5000 species;) in anatomy he must have used the scalpel—and all this is superadded to the course of the Gymnasium.*

The student of Forest Science must, after a course of thorough natural history—including botany, zoology, mineralogy, and geology—add a thorough and somewhat extended course of mathematics and physics. Of chemistry less is requisite than for the medical student. The examination is so thorough that there is no hope of passing without an intimate acquaintance with the several departments of science particularly belonging to the profession. Mathematics in its higher principle of the calculus, is called in to determine from accumulated data concerning the nutritive inorganic matters of the soil, and the rapidity of growth of different woods, &c.; how much wood can be profitably cut each year; and how soon tracts will be cut away; how long forests may advantageously be permitted to stand in particular places, &c.

Physics come in to aid in the drainage, road and hedge-making, surveying, &c. Botany and entomology are too obviously all essential, and scarcely less so are geology and mineralogy.

In passing through the superb gardens we saw quantities of fine beets, mangel-wurzel, cabbage, carrots, &c. The kitchen gardens certainly promise rich treats for the table in the coming fall and winter.

The chief labor in them, as in most other kinds of service, is performed by females. The freedom from weeds and the thrifty condition of all the vegetables, particularly attracted my attention.

Farther on we passed fields of rye, cut and shocked a fortnight or more since, and wheat just being cut. The latter is light, not more than twelve bushels to the acre. It is cut while the straw is yet tough, and the berry still soft, with a short, abruptly curved sickle, which is used, not as with us, aided by the left hand, but as a hatchet would be. The gavels with the mass of little parasitical vines about the straw, are afterwards bound up with rye straw bands at a lavish expenditure of time. The noxious Canada thistles, which are every where about Giessen, are separated from the gavels previous to binding. The rainy weather of the last fortnight or more, has proved the advantage of the careful shocking over all the grain fields. In drawing

* The gymnasium corresponds pretty nearly with our colleges. Students complete their courses of mathematics and the classics in them.

the wheat to the barns, a sheet of linen is tacked to the sides and bottom of the wagon rack. This, with the cutting before complete ripeness prevents quite all loss.

Already the rye fields are plowed and dragged for the fall crop. Flint, red-chaff, bearded, and another variety, of very large berry, I have noticed among the sorts of wheat. Potatoes are looking finely. They are generally in drills, not more than a foot and a half apart. New potatoes are in market.

We came first among the forests upon a section of eight years old larches. They were not more than three and a half feet high. Where any had died others of three years growth had taken their places. In a little marsh of only a rod square, the Prof. showed me, how, after years of failures to make larches grow, he had succeeded by inverting a spade-full of earth and sward upon the level surface, thus making a little hillock, and there planting the young larch. Throughout a distance of some miles, where formerly the road was about four rods wide, there are now on each side, regular rows of larches, firs, and pines, occupying nearly the half of the former width. The macadam road renders the original width unnecessary, and properly now it is appropriated to an increase of forest supplies.

The whole tract of the forest land belonging to the Giessen circuit, is cut into blocks about a quarter of a mile square, by roads of from twelve to twenty feet wide. These serve in the removal of wood, and divide the different growths and sorts from each other. This remark in general is true, though the kind of timber is varied in hills and in moist lands, irrespective of any thing else than the soil and situation. Every spot where plants could, and apparently should grow, there they were seen. Sometimes in quincunx order and sometimes from broadcast sowing. The latter method is now esteemed the better one, the plants being permitted to grow altogether fifteen or twenty years. At the end of this time the straightest and best remain, while the indifferent are removed, always careful however to keep the ground thoroughly shaded.

The nursery of forest trees was especially grateful to my eye. Here the varieties were grown less for transplantation to sites in forest lands, than as ornamental and shade trees. Many trees of other countries are here. An oak from Austria—another from America—as well as maples and pines from various lands. Above all the native and foreign trees in grace and beauty stood our New England elm. I could easily have fancied myself in a nursery by Pittsfield or New-Haven. It sells here as an ornamental tree at a good price. Varieties of ash, locust, maple, beech, thorn hedges, cherry, apple, and pears, were separated from each other in beds, and the whole kept freed from weeds by the labor of the peasant girls.

Upon the southern exposure of a grove of beeches, we saw the effect of direct sunlight upon trees that in earlier life had been protected by shade. A strip of bark several inches wide had sprung from the wood, and through a number of square yards about the roots, the grass by reflected sunlight had been most manifestly injured.

A singular trait of character in the deer which are encouraged to roam about here in considerable numbers, was pointed out to me. When the season arrives in which the bucks begin to rub their horns, they seek young, slender trees, and rub and twist them about till much of the bark is removed. What is particularly singular, is that they fall upon the saplings of foreign trees, as if conscious the tree would be destroyed, they would spare the native growth.

The muck that accumulates in the little ravines is gathered, much of it, and sold.* My attention was directed to a pile recently purchased by Professor Liebig. It is to be incorporated with the soil of a little farm called the Liebig Heights, commanding a fine view of Giessen and its surrounding points. Near this little farm the forest director is now laying out a network of walks through a grove of several hundred acres of pines. The expenditures are made by the city—a

* Some of it is employed to enrich the earth about the roots of trees when transplanted.

tribute of respect to the genius whose fame has made this little town known through the world. There can be no objection to my mentioning here, that the government of Hesse pay all the expenses of postage, and all the cost of transport of matters connected with chemistry that would otherwise fall upon Prof. Liebig.

To return. When the trees are from twelve to twenty years old, the trimming commences and employs hundreds of the peasantry when other labor is less pressing. The branches and twigs are cut and made into bundles for fifty-four kreutzers per hundred—about eighteen cents a hundred. They are chiefly consumed, I think, by the bakers. The trunks and larger branches are saved instead of being chopped, and, as already intimated, the stumps and roots are thoroughly dug up, dried, and sold. So economically managed are the expenditures of the laboratory, in order that the sums paid by students may be the least possible, that one of the apartments is warmed by the burning of little pine roots.

I have given you but a hasty outline of what I saw and learned, and yet imperfect as it is, it may give some idea of an art which we may one day be obliged to prosecute in the new world. The necessity of such rigid economy in the consumption of our forests has not been felt by us. When it shall be, it will be fortunate that so safe and complete a guide has been furnished us in the experience of the Germans.

Respectfully yours, E. N. HORSFORD.

MANURES.

L. TUCKER, Esq.—It is a principle now universally conceded, we believe, by all good farmers, that continual croppings, however favorable circumstances may be, must continually impoverish the soil, and that in the end, blank sterility will take the place of abundant fertility unless returns are made to it, in some degree commensurate to the amount of production taken from it. This principle is in perfect accordance to the universal laws of nature. Stop the flow of the streams which supply the fountains and let the outlet continue its draughts, and the fountain will soon become dry. Let an animal accustomed to labor, continue to perform his task, and although you may give him food sufficient for his subsistence in a state of inactivity, yet, if he continues to labor, and an additional quantity of food is not placed at his disposal, you will find his strength wasting, and his beauty and symmetry of form shrinking into contracted dimensions. So with the earth; let it labor and bring forth ever so abundantly of herb for use of man, and grass for his herds and flocks, and if this produce, the results of labor, be taken from it, and no equivalent returned, deformity and decay of its productive powers will be the sure result of such gross mismanagement.

Now every body knows that this restoring principle is found in manures or fertilizing substances which come within the reach of the farmer in various ways, and under different names, according as their different characters and qualities may dictate. Hence in lime, gypsum, salt, &c., we have mineral manures; clover, leaves from the forest, corn-stalks, furnish vegetable manures, and so on, through the whole vocabulary. The action of these different substances must of course be different, yet, their end is the same, to give fertility to soil exhausted by cropping, or as we would rather take business by the foretop and say, to prevent exhaustion.

It was our design when we commenced this article to write more particularly at this time on the management and application of vegetable and animal substances, useful in improving the soil. And we have no doubt but every body will respond to the assertion, that the more of these a farmer can bestow upon his lands, the greater will be the produce of his harvests, and the more farmer-like the look of his establishment. Then we take it for granted that every one will acknowledge the necessity of increasing these substances to the greatest amount, and applying them in the most judicious and economical manner.

According to our views of this matter then, the farmer's barn-yard must be the "savings bank" where all the deposits are to be gathered to effect this object. And in order to have every thing safe, about the vault, the yard should have a firm bottom and be raised at the sides so that all the liquids as well as the solids may be safe from embezzlement. Some recommend paving the basin of the yard in order to prevent leakage. We have found a very good substitute for this in spreading an even surface of "hard pan" or subsoil (a substance not unfrequently found within reach of the plow, on exhausted lands.) Into this repository it is no matter how much litter is thrown during the winter, when it is continually subject to the trampling of stock, and it is of very little consequence how coarse it is, provided it is of a consistency to absorb the juices of the yard. The refuse of corn-stalks, potato and pumpkin vines, indeed anything and everything which is capable of absorbing moisture may be deposited here with assurances of a speedy and profitable dividend.

We have now got our materials together, for everything must imply the whole, and what is to be done next? On this point there is yet a diversity of opinion. Some would say, let the heterogeneous mass remain over summer, and in autumn cart it off to the corn-field for next year. Others, perhaps would think it altogether advisable to reduce its quantity by some artificial process, and make of it rich rotten manure, fit for corn the present season. Either of these ways may do for those who have enough and to spare, but the farmer of limited means cannot, and the one of strict economy will not submit to the "falling of stocks" which must be consequent in either case.

We believe that it is now conceded by most farmers, that the farm-yard should be cleared as early as may be every spring, and that its contents be applied directly to the soil. Yet we know there are some, so much devoted to "ancient usages" and so bound in the opinions of their fathers as to suppose that corn cannot be raised on many soils without pursuing the wasteful practice of letting their manure lie over the year preceding, and the tedious operation of applying it by shovels-full under the hill. This process, if the land is previously in tolerable tilth, will certainly give a fair crop. And why should it not? Did the provident farmer who adopts this course ever reflect that the shovel-full so applied would have been three or four shovel-full if used in its fresh or unfermented state. Now let careful experiment decide this question. Make an estimate of the number of loads of fermented manure necessary to manure an acre of corn in the hill. Then make your own estimate of the number of loads of green manure necessary to make those loads rotted manure, and apply them to the adjoining acre, and see, not only where you get the best crop of corn, but the best succession of crops, for in making agricultural estimates, the account should always run beyond the present year. If you find the balance in favor of using green manure and spreading upon the land, then you gain one year in the use of it, a period of no small importance in improving a farm. And the advantage to the present crop, where manure is spread upon the land instead of applied in the hill, is greater than at first imagined. In the latter case its effects are earlier felt we admit, and they are sooner over, for however rapid the growth of corn may be, while the roots come within its immediate influence, it is checked as soon as they push into the unmanured land beyond; while in the former case, they, by pushing forward, are meeting new supplies as their increasing growth requires them. So then, we say, use barn-yard and stable manure in as green or unfermented a condition as possible. It is the fermenting process that is needed in the soil, and it is by this that like leaven it diffuses itself through the mass "until the whole is leavened," or fertilized. We care not how coarse the material be if it has only laid in the yard until it has absorbed its fill of the juices, for the coarser, the longer its effects will be visible. It will keep the soil if inclined to clay, loose or permeable to the sun and atmosphere longer, and if it is sand or gravelly land, it is much less subject to evaporation, and goes to

form vegetable mold, which renders it more tenacious. Hence the benefits of plowing in green crops on such lands. They furnish a fertilizing medium which is not soon lost by air, and winds, and rain.

In the application of barn-yard manures in an unfermented state we should be guided by circumstances. If very coarse, we would by all means plow them in, as in that case, the harrow could not cover them sufficiently to prevent evaporation, and therefore loss, which should be carefully guarded against, would follow. But where but little coarse material is combined, thorough harrowing may be sufficient.

With regard to the application of manure to spring grains, such as wheat, &c., we have of late years taken the loosest litter in the barn-yard, and spread it after the last harrowing, with good effect, though it may seem like a contradiction of the doctrine we have advanced. But there are attending circumstances which alter cases between plowed and hoed crops. It is usually a long time before the latter cover the land so as to obstruct the operation of winds and sunshine. In the case of wheat, it soon starts up and covers the surface so that in a little time it protects the litter, through which it sprung, from too rapid evaporation. This litter in its turn, extends acts of courtesy to the grain, by keeping the earth cooler and in a more equal state of moisture through its growth. It also prevents its being beat down into solid masses, by heavy rains, and thus preserves to it a readier fitness for atmospheric influence.

Yours truly,

W. BACON.

Richmond, (Mass.) Feb. 16, 1846.

EXPERIMENTS IN THE CULTURE OF POTATOES.

.....

L. TUCKER, Esq.—Time was, as aged people have told me, when a barrel of potatoes was considered a sufficient winter's supply for any family. From such a small beginning it has become one of the most important crops of our country, and its importance should enlist the feelings of all farmers to make every possible exertion to increase the crop without extra labor. There is a great difference in people in regard to the amount of seed necessary to be used in planting, and in regard to cutting, &c. Some farmers plant their potatoes whole, and use from 20 to 30 bushels on an acre; some plant only the seed end, thereby saving one-half or more; while others pursue different methods. I never knew an individual, however, who only planted a part of the potato, that did not plant the seed end. In my opinion, it is desirable that experiments should be made extensively, to ascertain, if possible, the exact amount of seed necessary—if it should be cut—and if so, to ascertain that part of the potato which is best for planting.

I send you the following account, hoping others, that have never done so, will be induced to make experiments with the potato, (and a great variety can be made,) believing the result will be beneficial.

In years past, we have cut our seed potatoes, using those of middling size, and put the seed ends of two in a hill. In 1843 and '44, we planted a few rows with the rest, cutting the seed so as to have only one eye in a piece, and put three pieces in a hill. At harvesting it took two or three more hills for a bushel, where only three eyes were put in a hill, than where the seed ends were; but the potatoes were larger and fairer, with but few that were too small for the table, while of the others, probably a fifth part were too small. The hills might be planted nearer together of the three eyes in a hill, thereby making the product of an acre greater than of the other method.

This year we tried a new experiment. Took potatoes about the size of a hen's egg; cut them, leaving about a third or more of the potatoe on the seed end, and planted two rows, putting two seed ends in a hill in one row, and two other ends in a hill in the other row. The rows were treated and cultivated exactly alike throughout, but owing partly to the drouth the yield was not large. In the row in which the seed ends were planted, it took 40 hills to make a bushel;

in the other only 29, being one-fourth difference in the yield.

In the first experiment, it will be seen there was a saving of seed, in the second an increase of the crop.
East Ware, N. H., Dec., 1845. EATON.

FACILITIES FOR WOOL-GROWING IN ILLINOIS.

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MR. EDITOR—Turning over files of your most valuable paper, my attention was drawn to "Notes of a Traveller—No. 1," contained in your number for May, 1845, signed by S. B. Buckley, which have much merit. The portion of the communication I would allude to and remark upon, is as follows:—"If we look at the history of sheep, we will find that they have always flourished best in hilly and mountainous districts; therefore it is not probable that the wool-growing business will be profitable on the western prairies, because there is too much sameness in the scenery, and often the want of pure water and air; besides during the summer season, the prairies are often parched by drouth when the grass becomes dry, affording little nutriment, and then it stands ready to be, and is sometimes consumed by fire. At such seasons every one knows that sheep would not have sufficiency of shade, food, and water. I allude more particularly to the middle and southern portions of Illinois, and I speak from impressions made in a tour through that region in the dry summer of 1838."

Now although the gentleman is guarded, and intends *only* to convey the ideas and opinions formed by him during a tour over part of southern and middle Illinois, yet as some of your numerous readers, perhaps, may, without further inquiry receive the above views as applicable to the *whole* of Illinois, and parts adjacent, I will attempt a limited description of parts of northern Illinois, (which I regret Mr. Buckley did not also visit,) at the same time hoping you may find room for my communication in your pages.

There is as marked a difference in the surface—its altitude, variation, beauty of scenery, &c., between the parts of Illinois Mr. B. alludes to, and the north-western section, as the contrast Holland displays with the choicest parts of England—say Gloucestershire. North-western Illinois has none of the sameness alluded to, except perhaps in spots of limited extent. The surface generally is high rolling prairie—with ravines, bluffs—and though *not* mountainous, comes within the term hilly—for, from points, one may catch a view of 10 or 25 miles of surrounding country, although *that* does not lie low; a flat of over 10 or 20 acres is rare, and the whole country is admirably drained, as was proved in that unprecedented wet season of 1844, the effect of which mainly was only to reduce the quantity of the crops about one third. There were no overflowings in this favored region, sweeping away fencing, stock, houses, and people, as elsewhere, nor were the roads impeded to the extent of retarding travelling.

The summer of 1845 was unusually dry; from May to winter there were but two or three slight showers of an hour or two. Yet the crops did not suffer—the grass continued good though not quite of usual height, and hay made of it has proved most excellent in flavor and nutriment. I made and stacked over 350 tons of this hay, and so good is it, that my eastern horses prefer it to timothy. Much certainly depends on making it at the right time and in the right manner.

With reference to the *air* of this country—its purity, freshness, elasticity, and freedom from sultriness is what first attracted my attention when travelling in north-western Illinois, during the summer of 1843, after having visited and resided in the choicest parts of Europe and Asia, and several of the islands of the east. I have never felt a climate more delicious, exhilarating and healthy, than in this valley of Rock River, nor have I viewed scenery more attractive for beauty and variety, though more wild and grand I have certainly seen.

Sheep do thrive well, excellently well here, as others and myself have proved, and the cost of keeping is little,

about 40 cents per head per annum, including shepherd, interest on capital, and every other charge. On my farm are about 1100, and it would afford me pleasure to show them to Mr. Buckley and all other persons who take interest in rural affairs, feeling assured, as I do, their condition would convince the most skeptical that there is no section of the United States where the animal thrives better in *every* respect, especially for wool and breeding. My flock has been fed mainly on prairie hay during the past winter, and with very little grain, not a quarter part of the quantity stated to be fed to flocks in New-York, Ohio, &c.

The dryness of our winters and clear cold weather, is favorable to sheep. The rainy days here being less by about one-half than in New-England and New-York. I have proved this truth, and in summer, it is rarely the sun rises without a breeze coming with it, continuing into evening or night. I have never known a real sultry day here.

Those who have doubts of this section of the west being favorable for sheep or other stock, and who seek *choice* spots for farming with unusual advantages, on a large or small scale—especially the former—I invite to call upon me, and proffer my services, vehicles, and horses to show them around—pointing out the slopes, gentle and abrupt—the bluffs and ravines—hill and dale and richest bottoms, on all which sheep delight to walk and pick the green food they are most fond of—near which are springs and creeks of pure water that never fail—also groves and openings of ancient timber ranging up to the most elevated points—choice sheltering places for the animals, from summer's sun and winter blasts.

There is no richer land or more easily worked else where. Such is the soil generally. Yet upon the range of a large farm may be found spots of 10, 20, or 40 acres of three or four kinds of soil—clayey loam—sandy mixture, &c.

It is true that generally, Illinois, is not so fully timbered or well watered as some other sections of our country, and the remark will apply to the favorite range I allude to. Yet there are spots that have all of wood and water that is desirable, with other adequate combinations in soil, surface, elevation, &c., &c.,—therefore, in contrast, are the more valuable.

I own a tract, rather extensive that has those combinations—land, and timber, and water, &c., sufficient for several large farms, which I would sell, or join persons with *means* and cultivate farms on joint account. These lie near the farm I am carrying on, of which, over 600 acres are fenced, with other improvements in proportion—also stocked. It commands over 10,000 acres of richest prairie, therefore adequate to keeping any desirable number of cattle, sheep, &c. I should be glad to meet a person of *means* to take one-fourth or two-fifths of this farm, who would engage to reside upon and look after it part of the time, that I may feel at liberty to travel.

With reference to Mr. Buckley's remark that "prairies are often parched by drouth, &c., I would state that so far as I have seen or heard, *our* prairies are *not* more liable to be parched than the fields of grass in any other section of the United States; and as for burning, I believe it impossible, until severe frosts have nipped the grass in latter autumn or winter. Here prairie fires are not fearful events, but otherwise, for what with roads, improvements, &c., our property is not jeopardized by them. And although I have *read* of these fires sweeping over the earth with a rapidity that cannot be escaped, even by a race horse, I have never seen the flames at a speed that I could not easily outrun, without the aid of horse. The fact is the grass here is seldom over 16 or 18 inches high. But where there are fires, as described, that surpass the deer in speed, the grass, cane, and weeds, reach to four, five, and six feet in height. Burning the dry grass has a beneficial effect on the succeeding crops of grass, especially in bringing it forward earlier and sweeter.

Permit me to state a few facts that contrast greatly with the *doings* of those who clear a farm in a country heavily timbered.

I bought my farm in April, 1844, and with the exception of about 25 acres that were broken up, all was as it came from the hand of nature, (very beautiful and rich certainly.) Before the end of September, the same year, I had sowed 176 acres of wheat, and about 20 of rye—and had broken for spring crops about sixty acres more, which was duly seeded the following spring. From the 176 acres I harvested last July rather over 3200 bushels of wheat—very superior in quality, and weighing 63 lbs. per bushel. This crop of wheat cost me a fraction under 24 cents per bushel delivered in my granaries, (not including the expense of breaking up the land,) every expense included, say labor, seed, threshing, teaming, interest on the value of the land and improvements, &c., &c. This result on *sod*,—next season I expect as is usual, a considerable increase of grain per acre, which, of course, will reduce the average cost per bushel in a ratio.

The breaking up, and seeding down, including seed, thorough harrowing, &c., &c., cost me exactly \$3 $\frac{3}{4}$ per acre. What does it cost per acre to clear timber land, leaving the stumps in the ground? and how many years must elapse ere 100 acres are thus half cleared. Here the comparative ease and economy with which prairie land may be worked—probably at less than half the labor or cost of the clearings—and it will do good service much longer without manure!

I should have stated above, that I harvested most of my wheat with Hussey's excellent machine, which, with four horses, cut about twenty acres per day perfectly, not leaving a straw. With this I employed ten men—eight binding and two on the machine, one driving and one raking off. I recommend that machine to all who have large fields to harvest.

The entries of land in this district, during the last current year, nearly doubles the number of acres of the previous year, and I believe all by actual settlers.

Dixon, Ill., April 9, 1846.

JOHN SHILLABER.

ON THE USE OF LEACHED ASHES.

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MR. EDITOR—I have just received your April number of the Cultivator, in which you wish, for the benefit of one of your correspondents, H. C. B., some information on the value of ashes, &c., &c., and call upon "chemists to tell." Not being exactly a chemist myself, yet having dug into the science a little, for the purpose of assisting me in my farming operations, I will offer a few remarks:—

Wood ashes, as you observe, generally do best on rather light soils; if they are applied in large quantities, either leached or unleached, they have a tendency to bring in the red moss, but upon gravelly soils this may not be detrimental, as they are usually dry and warm enough if there is moss. But upon more moist and close soils, ashes may ultimately prove injurious.

Unleached ashes when first applied to grass, or other crops, are much more efficient than leached, owing to the much greater amount of alkali, or potash they contain, but I do not think the sowing of unleached ashes upon land the most economical way of using them. If a heavy rain immediately follows, the potash is mostly washed out and carried off the land, or sinks into the soil beyond the reach of the roots of plants. Common potash is very readily dissolved in about its weight of water. If a farmer wishes to apply unleached ashes to his grass or grain crops, it would be the better way to mix his ashes quite moist with ground gypsum, and let them remain for sometime in the heap. The potash of the ashes would decompose the gypsum and sulphate of potash would be formed. Sulphate of potash is much less soluble than carbonate of potash, as it requires sixteen pounds of water (at the temperature of 60 degrees) to dissolve one pound of sulphate of potash. From this fact, the loss of potash by rains would be likely to be much less, and for clover, cabbages, turneps, radishes, the sulphate is decidedly better than the carbonate of potash.

But I think it a much more economical plan to mix ashes with swamp muck, peat or decaying vegetable

matter from the woods. All these substances are acid; (decomposing vegetable matters always produce acids.) These acids want neutralizing before the muck, &c., are suitable manures for most crops, (sorrel excepted.) Frequently swamp muck is saturated with sulphate of iron, or alumina, that has oozed out in the water from higher land. In such cases, the ashes will have the direct effect to neutralize the acidity of the muck, and make it a good manure.

Leached ashes are highly valued by the farmers upon Long Island, but I suspect that most that are used there are from the soap-boilers, and I think they are better for agricultural purposes than the leached ashes from the potash or pearlash factory. In leaching ashes for making soap, generally, there is about one peck of lime used to each bushel of ashes; but there is very little, if any lime, with the leached ashes from the potash.

There is, after the usual process of leaching ashes for soap or potash, a certain quantity of potash left in the ashes, in combination with siliceous matter. Dr. Dana says, there are 50 lbs. of potash in a cord of leached ashes. Exposure to the air decomposes this, and then another portion of alkali can be extracted by water. This partially explains what you have heard of the Long Island farmers, who "consider the leached as good as the unleached ashes, provided they are not used for sometime after being leached." And you farther say, "some suppose they attract valuable properties from the atmosphere after coming from the leach-tub. Is it so? and if any, what are the properties acquired?" In answer to your question, I say yes, it is so, and will explain it.

If a quantity of leached ashes are piled up under cover of a shed exposed to the air, another portion of alkali will be set free by the decomposition of the siliceous matter, as before stated, and the alkali has a strong affinity for nitric acid. The air we breathe is mostly composed of nitrogen, 79 parts, and 21 parts of oxygen; in these proportions, these two gases are mechanically combined. But by well known chemical laws, these two gases chemically combine in several different proportions, and form very different substances from common air. In one of their chemical combinations, they unite in the proportions of 14 parts nitrogen and 40 parts oxygen, and in these proportions it is called nitric acid, and mixed with a certain quantity of water it becomes hydro-nitric acid, or aquafortis. If common pot or pearlash is dissolved in diluted aquafortis, and the liquid evaporated, the result will be nitre, or saltpetre. But this is an artificial way of making saltpetre—and expensive too.

Nature takes a somewhat different method. As before stated, the alkali in the leached ashes has a strong affinity for nitric acid, and so strong is that affinity or attraction, that the nitrogen and oxygen of the atmosphere, will very accommodately chemically combine in the right proportions to form nitric acid, which readily unites with the alkali, and forms nitre or saltpetre—naturally, and cheap too. The longer the ashes are kept, and occasionally moistened and shovelled over, the greater the accumulation of nitre. But if the ashes are occasionally wet with urine, drainings from the manure heap, or mixed with night-soil, or decaying animal matter—substances all rich in nitrogen—the process will be much hastened, and the accumulation of nitre much greater in a given time. Perhaps twelve months would be a proper time for the ashes to remain.

A similar process is going on under all houses and other buildings; the potash in the feldspar and mica of our soils, is being slowly but continually dissolving, and as there is also a continual ascent of water, by evaporation, each particle of water as it ascends brings with it its particle of potash, which is returned in the dry surface soil, which combines with the nitric acid. And there are frequently large accumulations of nitre under old buildings. In some parts of the East Indies, where it seldom or never rains, nitre accumulates (as under buildings here,) in such quantities that the soil is shovelled up and leached, as we do ashes, and boiled down to nitre. Nitrate of lime is formed in vast quantities in the lime caverns of Kentucky. And the dry

plains in the province of Arica, in Peru, are covered with an incrustation of nitrate of soda.

Every body knows, or ought to know, that saltpetre is a good manure—though perhaps they do not all know why it is so. Possibly I may continue the subject, but my sheet is full at this time.

L. B.

Warner, N. H., April 20, 1846.

NOTES OF A BOTANICAL TOUR—NO V.

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MR. TUCKER—I spent three days collecting specimens in the vicinity of Painted Rock, and then went to the Warm Springs, six miles distant, in the famed county of Buncombe, in North Carolina. These springs were formerly much resorted to by the Southern Planters during the summer months, but latterly, owing to the facilities of travelling, many travel almost continually without incurring much if any greater expense than they would by spending weeks in succession, and perhaps months, at the springs. However, the Warm Springs have many attractions. They are in a beautiful mountain valley formed by the French Broad river, and surrounded by fine scenery. The buildings are spacious—the bath is delightful. A bathing house divides the largest spring, for the accommodation of both ladies and gentlemen where a person can indulge in swimming in water about four feet deep. The water is so strong that it will float the body with little effort. Its temperature was 94 degrees Far. Nor does it vary much throughout the year. The springs are near the edge of the river, and the one used for drink is overflowed by the river at high water. In this last were great numbers of a small shell, (*Physa aurea*.) A few miles beyond the Springs, on the road to Asheville, I stopped at Col. Chunn's, who was absent—his lady and a hired girl being the only white persons about the house. The road still wound along the French Broad, whose rapid stream was ever in view, forcing its boisterous course among the rocks, with high mountains on each side. This road belongs to a corporation and has several gates. It is a great thoroughfare, being the route pursued by most travellers and drovers passing from Tennessee into North Carolina. The droves of horses, mules, cattle, and hogs, are from Kentucky and Tennessee, for the South Carolina market. Staid all night at Col. Chunn's, and next morning crossed the river and ascended a small stream two or three miles, where I found *Berberis canadensis*, (Barberry,) Pursh, which is certainly very distinct from *Berberis vulgaris*, a native of Europe, now so common in New-England as to lead many to suppose that it is indigenous. Pursh's Barberry differs from the *B. vulgaris*, in its smaller and narrower leaves, and also in the size and form of its fruit and flowers. The former is a native of the mountainous parts of the southern states, and of rare occurrence, as it has been collected by few botanists since the time of Pursh, whose specimens are still in the herbarium of the late Prof. Barton, of Philadelphia. I have been thus particular because the two plants have been sometimes confounded; and Downing, in his Fruits and Fruit Trees of America, p. 160, says that they are scarcely distinct. On the 12th of May arrived at Asheville, intending to visit Mt. Pisgah, a high, conical mountain in full view, about twelve miles distant, overtopping its neighbors. I was told that the season was not far enough advanced to bring vegetation forward on the high mountains; and as I wished to see the Table mountain of South Carolina, it would be best to proceed there immediately—explore the mountains farther south, and return to Pisgah at a more advanced season. The climate of this region is not much, if any, warmer than that of Western New-York. During the summer of 1842, the thermometer ranged generally from 70 to 85 degrees, in the valleys, while on the mountains it was frequently about 60 degrees, and sometimes much lower. The guide who accompanied me to the summit of the Roan, a high mountain in Yancy county, said that he had been on the top of that mountain the 22d of June, when a storm arose and covered its top with snow. On the table lands of these moun-

tains, the inhabitants often do not raise corn enough for their own consumption, on account of the frost; the principal crops being oats, buckwheat, and potatoes, with an abundance of cattle and hogs, rarely a little wheat which is raised sufficient for home consumption in the adjacent plains. On a small farm in the vicinity of the Roan mountain, I was told that they had been subject to frost every month in the year. When I left the southern portion of Alabama, it was the middle of March, the woods were green, with their full expanded leaves; in about a week I had reached the elevated region south of Huntsville, in the northern part of the State, where the leaves had not yet attained half their usual size. From the 1st to the 10th of April, in middle Tennessee, the leaves were nearly full grown and the inhabitants were busy in planting corn; but at the middle of April, for thirty miles on the table land of the Cumberland mountains, the trees had just begun to put forth their leaves, and the ground was white in the morning with a severe frost.

On descending into the plains of East Tennessee, the country was green with verdure, and the farmers were there also busy in planting corn, and now, the middle of May, among the mountains of North Carolina, I found myself where vegetation had scarcely clothed the plains and woods with green while the leaves of the high mountain trees were about half grown. I should also remark that the spring of 1842 was from two weeks to a month earlier than usual.

S. B. BUCKLEY.

West Dresden, Yates Co., N. Y., 1846.

CONNECTION OF CHEMISTRY WITH AGRICULTURE

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MR. TUCKER—I have several times carefully read over Mr. Horsford's article on the analysis of red clover, in your May number, and I agree with you, that most of the inferences deducible from the results there given, are in perfect agreement with the teachings of experience. I have long known the superior value of well-made clover hay—especially for feeding milch cows and fattening animals; but in regard to the original principle which constitutes that value, Mr. Horsford has furnished me some new ideas. Following out the suggestion of Liebig,—that carbon, in the form of sugar, starch, and gum, when taken as food by the animal, is converted into fat,—Mr. Horsford shows that the value of clover consists mainly in the large proportion of starch or sugar it contains, and which is capable of conversion into carbonic acid. Thus the superior value of clover cut when the heads were fully developed, over that cut before the heads were formed, is shown by the former having yielded on fermentation nearly fifty per cent. more carbonic acid than the latter. "The larger per cent. of carbonic acid," says Mr. H., "corresponds to the larger per cent. of sugar." Here, then, we have an explanation of a known fact, viz., that there is more value in clover as food for stock, when it has reached its full growth, but is not ripe, than when it is in a more immature state. All may have noticed the sweetness of clover heads while in bloom. To secure the greatest quantity of this saccharine matter, should be the object of the farmer; and Mr. Horsford shows that by cutting the plant when the heads are fully formed, but not ripe, the sugar by proper drying may be secured. "The water," he observes, "will evaporate, leaving the sweetness with the vegetable fibre and other organic matters, to be fed to stock."

Mr. Horsford's hints in regard to the proper method of curing clover, are worthy attention. For instance, he shows that green clover contains 83.5 per cent of water, and from this draws the natural inference that, if it be taken to the stack or mow with this weight of water, a fermentation will follow which will destroy the sugar by converting it into vinegar—"souring the whole mass and rendering it unpalatable for stock." But if it be properly dried the sugar "will remain with the vegetable fibre and go to nourish the stock. Again, the heads and leaves are shown to be, as every practical man knows they are, the most valuable parts of the clover

plant; hence the mode of curing should be such as will prevent these from falling off and being wasted. Thus curing it in cocks as is now practised in this country to some extent, is proved to be the best.

The conclusions above given, as well as the results of Mr. Horsford's analysis generally, when brought to the test of practice, are found to be correct; and we may hope that a proper application of chemical science to agriculture, will in other cases alike harmonize with established facts.

Are there not, however, certain positions assumed by some chemists which are either at variance with known facts, or are at least difficult to be reconciled with them? I would cast no unreasonable distrust on the theories which have been given to the world through the medium of scientific chemical investigation. Some new and important truths have doubtless been discovered, and when we consider the comparative infancy of the science, it is perhaps reasonable to expect in future greater perfection in its practice and a corresponding correctness in regard to results and conclusions.

Chemists usually divide the substances used as food for animals, into nitrogenized and non-nitrogenized—the former are considered the special elements of nutrition, the latter only the elements of respiration. Liebig's arrangement of these substances is as follows:—

Elements of nutrition.

Vegetable fibrine,
Vegetable albumen,
Vegetable caseine,
Animal flesh,
Animal blood.

Elements of respiration.

Fat,	Pectine,
Starch,	Bassorine,
Gum,	Wine,
Cane sugar,	Beer,
Grape sugar,	Spirits,
Sugar of milk,	

Liebig thinks that substances of the former class only are capable of forming or supporting the organized tissues. He says—"The former are capable of conversion into blood, the latter incapable of this transformation."

* * * Out of those substances which are adapted to the formation of the blood, are formed all the organized tissues.*

Now the question is, do practical results, in all respects agree with this arrangement and these conclusions? Let us see. It is admitted that all bodily exertion produces a greater or less waste of muscular tissue. Liebig says—"the slightest motion of a finger consumes force," and "that in consequence of the force expended, a corresponding portion of muscle diminishes in volume."† But the principal point of the first enquiry, is, whether muscular strength and the waste of muscular tissue are supported and supplied by food in the ratio of the nitrogenous matter which the food yields on analysis?

Fat, it will be seen, is reckoned among the substances wholly destitute of nitrogen; according to Liebig's theory it contains no nutriment, and is incapable of supporting muscular action. If this is admitted, how shall we account for the superior value which fat meat is known to possess as food for the laboring man? The English or Irish laborer, whose food sometimes consists in a great degree of vegetables, such as potatoes, turneps, and cabbages, finds his ability to perform labor or sustain muscular exertion greatly increased if he can contrive to add to his vegetable diet a quantity of clear fat pork or mutton, lard, or the suet of beef or mutton.

Chemists inform us that the proportion of nitrogen in the vegetables above named, is very small—amounting in potatoes, which contain most, to only *thirty-six hundredths of a pound* in one hundred pounds;—and we know that the laborer cannot long sustain himself on these articles alone; yet by the aid of animal fat,—which it is said contains, not only *less* nutriment than the vegetables, but absolutely *none at all*, he is enabled to continue his labors, comparatively without fatigue!

The eastern and Canadian lumbermen, in securing their winter's stock of provisions to take to the woods, procure the fattest meat which can be had, to eat with their bread and potatoes. Fishermen, and indeed the laboring men generally in the New-England and Northern states, procure the fattest pork, which they prefer to any other kind of meat—especially as experience has proved its superior adaptation to sustaining the body.

Indian corn does not contain a large proportion of nitrogen. According to the late analysis of Dr. Playfair, its proportion of protein, or nitrogenous matter, in 100 parts is 7—giving less of what chemists call nutriment, than wheat, barley, or oats; yet the savage with his horn of bear's oil, and pouch of parched corn, takes the most laborious exercise—fearlessly enters on war-expeditions against his enemies, where success depends greatly on muscular strength and power of endurance.

Mr. Schoolcraft, in his late Report on the Iroquois. (page 150,) informs us that the Indians sometimes took with them on their former journeys, meal of parched corn and sugar derived from the sap of the maple; and he states that only one table-spoonful of this meal mixed with sugar and water, would sustain a warrior for twenty-four hours without other food. And yet, as we have seen, Indian corn is not very rich in nitrogen, and sugar, according to Liebig, is wholly destitute of nutriment, though he believes it may form fat.

Again, in regard to the results of feeding swine with nitrogenized and non-nitrogenized food, Liebig asserts.

"A pig, when fed with highly nitrogenized food, becomes full of flesh; when fed with potatoes, (starch,) it acquires little flesh but a thick layer of fat."*

On this subject we have a case exactly "in point" in swine fed on the offal of slaughter-houses. The offal of these establishments does not consist of fat, (for that is too valuable to give to hogs,) nor scarcely in any degree of substances of which fat, according to Liebig's theory, could be formed—it is chiefly blood, membrane, and tendon. But do the facts furnished by this example sustain the conclusion that "swine fed on highly nitrogenized food" become particularly "*full of flesh*?" In the pork so produced, does the fat bear any less proportion to the lean than in hogs fattened in the ordinary manner? The common opinion on this subject is known to be directly the reverse of Liebig's; viz., that instead of such pork being more hard and "*full of flesh*," it is more soft and oily than the common kind. I have conversed with butchers who have killed and sold in market many hogs fattened on slaughter-house offal, and they unhesitatingly state that the proportion of fat is as great, and that of lean, not greater than in hogs fattened on vegetable food.

The idea is held by some that wild animals, especially the carnivora, have no fat;† yet it is known that bears often acquire a degree of fatness scarcely surpassed even by the hog. They have been killed in their dens after a hybernation of five months, when the carcasses have been found covered with a layer of fat of from one to two inches or more in thickness, and the kidneys also completely covered with it.

Somewhat of connection with the point here under consideration, Liebig remarks that—"in the entire class of carnivora, the food of which contains no substance devoid of nitrogen except fat, the production of fat in the body is utterly insignificant;" but he supposes that "even in these animals, as in dogs and cats, it increases as soon as they live on a mixed diet;" and that "we can increase the formation of fat in other domestic animals at pleasure, but only by means of food containing no nitrogen."

In reference to this it may be said that a considerable accumulation of fat in dogs is not unusual, even in those fed mostly on animal food. Indeed, butchers' dogs, which live on this kind of food, are generally fattest. The writer has known at least one dog of most extraordinary size and fatness, whose food for years was almost entirely blood, which he lapped as it gushed warm

* Animal Chemistry, page 32.

† Animal Chemistry, page 31.—"The flesh of wild animals is devoid of fat."

* Liebig's Animal Chemistry, p. 35. † Animal Chemistry, p. 68.

‡ Boussingault.

from the throats of slaughtered animals. It is true that this dog had been subjected to emasculation; but this operation, though it might change the secretions of the system, could not affect the constituents of the food, or cause it to produce any results in the animal but those in accordance with natural principles.

A late number of the *Rochester American* contains a communication signed A. Wheeler and S. Johnson, stating that a dog owned by Dr. L. Ballard, of Le Roy, had lately been slaughtered by Capt. Blood, a butcher of that village, from which there was obtained "fifteen gallons of clear oil." The live weight of the dog was stated to have been 270 lbs. We are not informed how this dog had been fed. But from various examples, and particularly from that of swine fed on slaughter-house offal, are we not forced to regard the assertion, that the fat of animals can be increased "only by means of food containing no nitrogen," as not supported by fact?

In the foregoing remarks, I have not adverted to the theory advocated by some chemists—as by Dumas, Boussingault, Paen, &c.,—that the fat of animals is wholly assimilated from oil ready formed in the food, and that potatoes, beets, carrots, &c., are incapable of fattening stock, because they contain no oil. It is deemed unnecessary to occupy space in discussing a theory which the experience of a great number of farmers plainly proves to be unfounded.

In concluding this communication, allow me to express the hope that the spirit of investigation which is already so widely enkindled, may be guided by reason and judgment, and continue till we shall be able to see and realize the important benefits resulting from an union of

"SCIENCE WITH PRACTICE."

MERINOS IN VERMONT AND NEW-HAMPSHIRE.

.....

L. TUCKER, ESQ.—I will once more invite the attention of the readers of the *Cultivator* to a few remarks upon Vermont sheep.

January 2d, 1846, had the pleasure of examining the Hon. Wm. Jarvis' flock of Spanish Merino sheep, which have descended from importations made by himself in 1809, '10, and '11, when he was United States consul at the port of Lisbon. [For a particular description of the importation of Spanish sheep, the reader is referred to Mr. Jarvis' letter, published in the *Cultivator*, new series, vol. 1, p. 126.] Mr. Jarvis is wintering about one thousand sheep, a part of which are Saxons, and a cross of the Merino on the Saxon. I have examined sheep in different parts of the country, and have seen sheep from all of the most important importations that we have any account of. I have seen those termed "Paulars," "Rambouillets," "Guadaloupes, and "Escurials." I have seen larger sheep, heavier fleeces, and finer wool, but I think I have never seen any sheep carrying more fine, clean, soft wool, in proportion to the weight of carcass, than Mr. Jarvis' descendants of his Spanish importations. They are free from jar, and not much given to wrinkling and doubling of the skin about the neck and body. They are not as much wooled on the legs and about the face as many sheep in the country that are denominated "pure" *this*, or "pure" *that*, but the wool on the flank and belly is long, thick, and nearly as fine and soft to the touch as on any other part of the body. Mr. Jarvis keeps his sheep in flocks of two or three hundred, and the consequence is they do not attain that size, that those do, that are bred from his sheep and kept in smaller flocks. (An instance of this kind may be seen in the flock of Mr. Remelee, of Shoreham, who has several from Mr. Jarvis' flock, resembling the Leicester in size more than the Merino. We purchased of Mr. Jarvis three bucks and three ewes.

We were next shown a full-blood Dutch bull, color black and white, of fair size, and in appearance a very good animal. We were next invited by his son to look at a full-blood Arabian horse; color light grey, and unlike any thing of the horse kind in this country, in form and symmetry, that I have seen, and especially of our

Morgan breed; but the little we saw of his movements convinced us that he was a horse of remarkable action.

I am inclined to think that there are more pure blood Spanish sheep in the country than Mr. Jarvis accounts for. (See his letter above referred to.) And should it be found practicable to make a new importation of sheep from Spain, (which, from the best information I can gather, I judge to be extremely doubtful, though several have told me they are about making an effort,) I shall be slow to entertain the belief that they will add much, if any thing, to the means already in our possession of increasing our valuable breed of sheep. Taking Mr. Jarvis' account of the importation of Spanish sheep for the basis of calculation, it appears that from the first importation by Chancellor Livingston, in 1801, to the close of 1811, there were about 7000 Merino sheep introduced into the United States, and were landed in different ports from Maine to Georgia, though the largest portion of them arrived in Boston and New-York.

In speaking of the diseases of sheep, Mr. Jarvis gave it as his opinion, that foot-rot *will breed* in flocks which run on low, wet pastures, and that it is also contagious. "But," said he, "if a man continues it long in his flock the fault is entirely his own," and then went on to give the following prescription for its cure:

"Blue vitriol, 3 parts; white lead 1 part, mixed with linseed oil, about thick enough to use in painting a house; pare and clean the feet with soap suds; then apply it."

This he recommends as a sovereign remedy for foot-rot, with proper care in changing the sheep from the foul, to clean dry pastures at each dressing, which, in the worst cases, may require two or three.

On our return, we called again on Mr. Hull, of Wallingford, and purchased two of his best young ewes. I have since examined Mr. J. A. Conant's flock, of Brantland, and Mr. W. R. Sandford's flock, of Orwell, in Rutland county; Messrs. Elitharp's and Hall's flocks, of Bridport; Messrs. Wright's, Remelee's, Chipman's, and North's flocks, of Shoreham, in Addison county, and found them all in the possession of valuable flocks of sheep. But perhaps the anecdote of the justice, will, in part, illustrate my views in relation to most of the above flocks. His honor having listened to the plea of the plaintiff's counsel, very readily decided the case in his favor. "But stop," exclaims the opposite counsel, "I have a word to say," when after delivering a labored argument in favor of his client, the justice again decides, "and *you* have got your case." I might discriminate if time and space would allow, but prefer to leave the task to gentlemen from other counties and other states who may take the trouble to examine our sheep.

J. N. SMITH.

Vergennes, March 10, 1846.

KEEPING POTATOES SOUND.

.....

WE have had occasion to commend the practice of keeping potatoes through the winter in heaps, out of doors, by using abundance of straw and but a moderate quantity of earth as a covering. We have repeatedly known heaps of 60 or 70 bushels, covered with a compact layer of straw one foot thick, and only a few inches of earth outside, to endure the winter and early spring *without the loss of a peck*. In a late experiment of the writer, a heap thus covered wintered through with the loss of not half a peck, although a large portion of the same crop which was removed to the cellar was lost by the rot; and at the same time that many neighbors lost three-quarters of their potatoes buried in the usual way, that is with only a few inches of straw under a foot of earth. It will be perceived at a glance that the mode here proposed secures in an eminent degree, sufficient protection from frost, dryness, and ventilation. All potatoes in heaps, when buried early in autumn, should be kept constantly well ventilated by a hole and wisp of straw in the top. The mass of rotten potatoes, so usually found at the apex of the heap, and usually attributed to freezing, is more frequently the result of foul confined air, rising to the top.

MANURING BY GREEN CROPS.

Can land be improved merely by plowing in the crops which grow in it?

Suppose land to be in clover; which will most improve the soil, or conduce to the product of the succeeding crops, plowing in the entire growth of clover, or feeding it off with stock?

At what stage should a green crop be plowed in to obtain from it the greatest benefit?

Some have doubted whether land can be improved by its own products alone. The idea with those who entertain this doubt, seems to be that every ingredient of the vegetable structure comes originally from the soil, and that hence no principle of fertility can be added to a given extent of soil simply by the decay of vegetation which it has produced. Without attempting to argue this point in detail, it is sufficient, perhaps, to advert to the well-known fact that the fertility of forest lands increases as long as the growth of wood continues.

It is related that Van Helmont planted a stalk of willow in a box containing a quantity of earth. He carefully dried and weighed the earth before planting the twig. He watered it with distilled water only. After several years, he took out the willow which had attained an increased weight of many pounds, dried the earth as before, weighed it, and ascertained that it had lost only an ounce or two of its original weight.*

The fact that vegetables do derive a part of their substance from the atmosphere, admits, at least of no reasonable doubt; but certain kinds of plants are believed to draw their food from the atmosphere in greater proportion than others. It seems reasonable to believe that those substances which have once formed plants, are capable, by decomposition, of contributing to the growth of other plants whose nature and composition are more or less similar.

It has been ascertained that carbon enters largely into the structure of plants—it is, indeed, next to water, the chief element of their composition.† It is taken up in the form of carbonic acid, both through the leaves and the roots. Those plants which take the largest proportion of their food from the air through the leaves, are the broad-leaved kinds. By cultivating those of this description, and depositing their substance in the soil, we can increase the elements of fertility—that is, we can draw from the air and concentrate in the soil, matter which will supply food to other plants.

So much for our first question. In regard to the second, we incline to the opinion from evidence derived from experience and observation, and considerable inquiry, that it is better to feed off clover than to plow it in. We believe that the best crops are obtained where the clover is depastured. This subject has been brought up for discussion at several of our agricultural meetings, and the opinion expressed by nearly all farmers who have had practical acquaintance with it, was in agreement with our own. Col. Cost, member of the Assembly from Ontario, and an extensive and judicious farmer, stated that he had practised plowing in clover, and had observed the results thus produced compared with those where it had been fed off, and he gave a decided preference to the latter course. The experience of Gen. HARMON, of Wheatland, well known as one of our most successful wheat-farmers, has also, we are authorized to say, induced him to form the same opinion. He has noticed that his wheat crop is always better where clover has been depastured.

We are not aware of many experiments having been

* The writer is unable to refer particularly to this experiment, but is confident that the facts are stated in general terms.

† The substance of plants chiefly consists of woody fibre, starch, and gluten. Woody fibre and starch, and also gum and sugar, consist of carbon and water only. Thirty-six pounds of carbon and thirty-six pounds of water, form seventy-two pounds of woody fibre. Thirty-six pounds of carbon and forty-five pounds of water, form eighty-one pounds of dry starch or gum. Thirty-six pounds of carbon and forty-nine and a half pounds of water, form eighty-five and a half pounds of loaf-sugar or sugar-candy,—and thirty-six pounds of carbon and twenty-seven pounds of water form sixty-three pounds of humic acid.—*Johnston*

made expressly for the purpose of testing this point, though its importance is such as to render the most careful experiments necessary, and we would suggest this to agricultural societies as one of the subjects to which their attention should be directed.

We recollect having read an account of an experiment made by the late Gen. HARRISON, of Ohio. He had a field of clover consisting of several acres—the soil of clayey loam, and of uniform character. He divided it into two parts, one of which was pastured, chiefly with cattle, and on the other the growth of clover was plowed in. In the autumn, the pastured portion was plowed, and both parcels were sown to wheat. The wheat was best on the part which had been pastured, as were also the two succeeding crops, consisting, if we mistake not, of oats and clover.

Various causes are assigned for the effects above mentioned. 1. It is said that by burying in the soil a mass of vegetation while it is filled with sap and juices, a sourness is produced which is hurtful to succeeding crops. 2. In some instances where a considerable quantity of clover has been plowed in, its effect is thought to have been to make the soil too "hovery," or "puffy," as it is variously called—that is it becomes too loose at the bottom of the furrow and the roots of the wheat do not obtain a sufficiently firm hold.

That sourness is actually caused by the fermentation of a large mass of green clover or other vegetation, does not seem improbable. The sap contained in the stalks and leaves may be forced by fermentation into acetic acid, and the sugar and starch be turned to vinegar. Every one may have noticed that a pile of green weeds or green grass, becomes after a time actually *sour*—the acid may be perceived both by smell and taste—and we are unable to see why the same effect should not take place when a heavy crop of clover is turned in with the plow. At all events, the effects of the practice are such that many farmers declare they would prefer having the clover cut and carried off the land rather than that it should be turned in green.

Mr. VEDDER, of Geneva, informs us that he formerly plowed in clover, but that he has latterly discontinued the practice. He is of opinion that the chief value is in the root of the plant, and he states that he has obtained better crops where the clover has been cut and the stubble only plowed in, than by plowing in the green tops. Gen. HARRISON, also, in explaining the results of the experiment above mentioned, suggests that the principal amelioration of the soil is by the roots. They may produce a favorable effect in several ways. Where the soil is too compact, they make it more friable by dividing and opening it, and the decomposition of the roots themselves furnishes a large amount of matter.

We will suggest another mode also by which the roots improve the soil. It is known that plants exert a vital action on the soil. It is by this principle of vitality that they are able to reduce the various substances of which they are formed, into food on which they can subsist. Inexplicable as is this mysterious power, it must be great; for by its exercise the hardest flints and the other mineral elements which enter into the vegetable structure, are perfectly dissolved, are taken up and made to perform their several offices in the tissues. Perhaps no plant is more remarkable for this action than clover. Some idea may be formed of it by observing the effect produced when its roots are brought in contact with rocks or stones. Under this vital energy, through the agency of light, heat, air, and moisture, the solid rock is made to crumble, and gradually to wear away. Now may not this action of the roots tend to bring the earthy matters composing the soil into a state more favorable to the support of other plants? May not the mineral elements be thus rendered more easily soluble and available to other crops?

It may be said that the sourness before spoken of, can be avoided by allowing the clover crop to ripen and die before it is plowed in. This is probably true, and it has been tried in some cases, but still preference has been given to the practice of feeding off the crop. The fact upon the whole seems probable, that there are

certain substances, as nitrogenized salts, &c., conveyed to the soil in the dung and urine of animals, whose action is more favorable to fertility than the crude undigested vegetable matter.

But to speak more particularly in regard to the third question proposed for consideration. We have no doubt that land may be improved by clover unaided by stock. We have shown that a portion of the organic matter of which the plant is composed may be drawn from the air. This matter, which ultimately becomes *humus* or vegetable mould, is, to a certain extent at least, essential to the fertility of soils. Prof. JOHNSTON states that rich soils usually contain five per cent. or more, of their weight of organic matter. To secure the full benefit of this, we should adopt that mode of management which will admit of the accumulation of the largest quantity, and apply it at the time and in the manner which will produce the most favorable operation. Now by allowing the crop to become fully grown, we shall, of course, obtain the most, and by allowing it to become partially ripe and dry, we shall avoid the objections resulting from acetic fermentation. This, therefore, is the state in which we think the greatest advantage would be derived from plowing in a crop of clover.

DISCUSSION IN RELATION TO CATTLE.

THE discussion at the weekly Agricultural meetings at Boston the past winter, have been reported in many of the papers published in that city. Judging from the reports, we should suppose the meetings had been generally well attended, and that a considerable number of the farmers have taken part in most of the discussions. We give the following abstract from the reports of the discussion on neat cattle.

Mr. GLEASON, of Weyland, pays considerable attention to rearing cows, and is careful to select calves that come from good milkers; the bull should also be of good stock. Two calves are put with a farrow cow and turned to pasture. If the cow is unwilling to "own" the calves, he shuts up the cow and puts the calves in a pen near by. She will generally own them in a few days, but if not, he puts a dog in the stable with the calves. The dog will bark and the cow bellow, and in a short time she will own the calves. He lets the calves run four months with the cow. He keeps more or less of the no-horn or "buffalo" cows, and thinks they are good milkers. [The *Boston Cultivator* in reporting this discussion, calls these no-horned cattle "Galloways," and we have noticed some of the other Boston agricultural papers apply that name to them, but with what propriety we cannot discover. We have seen, in various parts of the country, many of these "buffalos," (a strange name truly, for cattle which have no horns,) but have never found more than three or four which exhibited any of the distinguishing marks of the Galloways.] In selecting cows, Mr. G. prefers those which have a bright full eye, light neck, thin shoulders, broad hips, small tail, flat horn, and the udder of a yellow color. He would avoid a cow with black teats. He would avoid driving milch cows any considerable distance—even half a mile he thought too far to drive to pasture, and was satisfied it made the quantity of milk less. He was certain a cow wintered in the stable would give less milk than one which had the range of the yard.

For oxen, Mr. G. prefers a full eye, long face, broad back, deep, broad brisket, rump rather sloping than rising. An ox with a very thick hide is not generally so spirited. He was careful not to buy an ox with crooked legs, as they were more likely to get lame. Commences breaking steers when they are two years old.

In relation to breeds, he said he had reared Durhams—they were larger and handsomer than native cattle, and sold more readily—had seen fine milkers among the Ayrshires and Durhams, but he thought the native cows, on the whole, were as good as any.

Mr. BUCKMINSTER, editor of the *Mass. Ploughman*,

admitted he was somewhat prejudiced against the Durham breed of cattle. He said he had taken much pains to know what was their product in milk and butter. He had invited the owners of such cattle to show the yield of their dairies, and though he had found instances of very good cows of that breed, he was bound to say, generally, they were not equal to the native cattle of the country. He said we have cows in New England that have made their 14, 16, and 18 pounds of butter per week, and he thought it would be easier to find a dozen such cows, than a dozen Durhams that would yield as much in proportion to their size. We want the greatest yield in proportion to the size of the animal and the nourishment she requires. He called attention to the fact that the State Agricultural Society, in its efforts to improve the stock of the country, had lately imported Ayrshires and Devons, but no Durhams. He thought the milk of cows which gave a very large quantity, was not so good. He had a cow which made fifteen and a quarter pounds of butter per week in June last, and the greatest quantity of milk she gave was 18 quarts a day.

Mr. SHELDON of Wilmington, had paid considerable attention to the rearing of cattle—had owned at one time about 100 yoke of oxen. He thought benefit had been derived from imported cattle by crossing with the native. The mixed breed have better feet than the natives. An ox should be broad between the eyes, should have straight, broad, and rather short hoofs, round ribs, straight back, hips falling off about an inch. Nine out of ten oxen which give out, fail in the fore feet. The legs should be straight, and they should toe straight forward. He thought it a bad practice to drive oxen with a goad, (a stick with a brad in one end of it,) as they did in Maine—it irritates the cattle and makes them either crowd or haul apart. The best feed for working oxen, he thinks, is chopped hay and Indian meal.

Mr. G. thought sufficient care was not taken with our native cattle, to improve the breed. A good milker usually has a pet calf, and it is too apt to be given to the butcher. He said, our native cattle sell better at Brighton, than the Durhams. [For what purpose? Are *real* Durhams sold there?—Ed.] He bought one cow at Brighton that had such excellent qualities that all her descendants (?) proved superior. She had the right blood. He thought cows should be stabled and kept warm in winter, to afford most profit—would give them chopped food. If the fodder was chopped and wet they would need but little water. He preferred shorts and carrots to Indian meal for cows. He thought it very injurious for cows to drink ice-water—would make the water for them to drink, as warm as that of brooks in summer. If cattle were swelled (hoven) he gave them half a pound of ground mustard seed mixed with lard.

Mr. BROOKS, of Princeton, said he raised from 100 to 150 heifers annually. He buys the best he can find, before they are weaned and weans them on porridge. They were mostly of the native breed. He generally gets about four good cows in every ten reared. He thought the Durhams did not stand the winter well, and he believed the Mass. State Society had acted wisely in not importing Durhams, as the Ayrshires and Devons were preferable. The Ayrshires, he thought, winter as well as the natives, but he preferred the Devons. He spoke of the Devons imported fifty years since by Christopher Gore. [Upon what authority does Mr. Brooks speak of Devons having been imported by Gov. Gore? We are in possession of proof that the bull which obtained such celebrity as the "Gore bull," and whose numerous descendants, to the latest generation, are commonly called the "Gore breed," was presented by the late Charles Vaughan, Esq., of Hallowell, Maine, to Gov. Gore, in the year 1792. The year previous, 1791, Mr. V. imported two bulls and two cows. While on the passage, one of the cows produced the calf given to Gov. Gore. The cows were selected from a milk-farm in the vicinity of London, and instead of being Devons, were probably *Yorkshire Short-Horns*.—Ed.]

Mr. Brooks mentioned a disease with which milch

cows in his neighborhood had been afflicted. They had a propensity to eat bones—they became weak and their bones would sometimes break in trying to rise from the ground. He attributed the disease to the want of phosphate of lime in their food. He had cured the disease by giving the cows bone meal. This disease is confined to milch cows. Neither farrow cows or oxen are attacked by it.

Mr. COLE, editor of the *Boston Cultivator*, observed that this disease had been prevalent in some of the dairy districts of England. Chemists had attributed it to the exhaustion of the phosphate in the soil, and had recommended bone manure, which had been used with success.

Mr. DAVENPORT, of Mendon, had kept a cow in the stable four or five years, she seldom leaving it. He gives her two quarts of meal per day, regularly, and roots and hay, with grass in the season of it. He covers her with a thin covering in summer, to keep off the flies, and with a thick blanket in winter to keep her warm—warms her drink in winter. Under this treatment, there is but little falling off in the quantity of milk till a short time before calving. Though she is a small cow, not weighing over 700 pounds, she has given from eight to sixteen quarts at a milking. Her [hind] quarter is long and her skin loose.

For swelling or hoven, Mr. D. gives a little weak ley. He puts about a pint of ashes to a pailfull of water. He had given this to both cattle and horses for other diseases with good effects.

AGRICULTURAL STATISTICS OF NEW-YORK.

BY S. S. RANDALL.

LUTHER TUCKER, Esq.,

Secretary of the N. Y. State Ag. Society:

DEAR SIR—In accordance with your request, I have carefully compiled from the original returns in the office of the Secretary of State, and herewith transmit to you, such statistics in reference to the agricultural interest of the State as I conceived would be most acceptable to the members of the society with which you are connected, and best adapted to the diffusion of an accurate knowledge of our agricultural resources and condition.

The entire population of the state, as returned by the marshals, is 2,604,495: comprising 1,311,342 males, and 1,293,153 females.

The aggregate number of farmers and agriculturists in the state, is 253,292, or somewhat less than one-tenth of the entire population, and one-fifth of the whole male population. The number of legal voters in the state, (exclusive of persons of color,) is 539,379; consequently the number farming to all other professions, is very nearly as one to two.

The whole number of acres of improved land in the state is 11,737,276: of which 1,013,665 is devoted to the production of wheat; 1,026,915 to that of oats; 595,135 to that of corn; 255,762 to that of potatoes; 317,099 to that of rye; 192,504 to that of barley; 117,379 to that of peas; 16,232 to that of beans; 255,496 to that of buckwheat; 15,322 to that of turneps; and 46,089 to that of flax; wheat and oats being the great agricultural staples of the state; corn and rye holding the next place, potatoes and buckwheat, in about equal proportion the next, and barley, peas, flax, beans, and turneps, following in the order in which they are here named; the least number of acres being devoted to the culture of the turnep.

The western and northern portions of the state are best adapted to the cultivation of wheat, potatoes, oats, while the southern and eastern portions seem most favorable to corn, barley, peas, beans, turneps and flax. The middle counties afford the best encouragement to the raising of cattle.

Of the 1,013,665 acres employed in the raising of wheat, the number harvested during the year is reported at 958,234, yielding an aggregate of 13,391,770 bushels, exceeding by 1,438,263 bushels the amount raised

in 1840, and averaging a fraction under 14 bushels to the acre. In the county of Monroe, the average yield is 19½ bushels; in the county of Kings, 19; in each of the counties of Orleans and Niagara, 18; in the county of Clinton, 17½; in Genesee county, 16½; in each of the counties of Cayuga, Ontario, Livingston, and Franklin, 16; and in each of the counties of Onondaga, Richmond, Seneca, Warren, and Wyoming, 15. In two of the outer wards of Brooklyn, the average yield was 24 bushels to the acre; in the town of Wheatland, Monroe county, 22 bushels, and in Sweden, same county, 21.

From the 1,026,915 acres devoted to the production of oats, the aggregate number of bushels harvested during the year is stated at 26,323,051, exceeding by 5,594,313 the quantity raised in 1840, and averaging nearly 26 bushels to the acre. In the counties of Seneca and Kings, the average exceeded 35; in Monroe and Ontario, 32; in Onondaga, 31; in each of the counties of Cayuga, Dutchess, and Livingston, 30; in each of the counties of Orleans, Niagara, and Rensselaer, 29; in each of the counties of Chenango, Madison, Oneida, Orange, Wayne, and Yates, 28; and in each of the counties of Chautauque, Clinton, Columbia, Jefferson, Queens, Richmond, Suffolk, and St. Lawrence, 27.

From the 317,099 acres devoted to the production of rye, the aggregate number of bushels harvested during the year is stated at 2,966,322, being 18,591 bushels less than were harvested in 1840, or an average of nearly 9½ bushels to the acre. In the county of Kings, the average product is reported at nearly 20 bushels to the acre; in the county of Richmond, at 14½; in the county of Jefferson, 13½; in each of the counties of Clinton, Orleans, and St. Lawrence, 12; in Chenango, 11½; in each of the counties of Erie, Livingston, Rensselaer, and Wyoming, 11; in each of the counties of Schenectady, Queens and Essex, 10½; and in each of the counties of Albany, Delaware, Franklin, Fulton, Genesee, Herkimer, Lewis, Monroe, Montgomery, Orange, Warren, and Westchester, 10. In the ninth ward of the city of Brooklyn, 265 bushels were obtained from 16 acres, being an average of 25 bushels to the acre; and an equal average crop was obtained in the town of Gravesend in the same county.

From 595,135 acres planted with corn, the aggregate number of bushels harvested is returned at 14,722,115, being an increase of 3,636,973 over the harvest of 1840, and averaging nearly 25 bushels to the acre. In the county of New-York, the average yield was 40; in Kings county, 38½; in Richmond, 35; in Suffolk, 34; in each of the counties of Orange, and Westchester, 32; in Rockland, 31; in each of the counties of Monroe and Orleans, 30; in each of the counties of Niagara, Ontario and Seneca, 29; in each of the counties of Chemung, Chenango, Jefferson, Oneida, Onondaga, Putnam, and Tioga, 27; in each of the counties of Clinton and Wayne, 26½; and in the county of Broome, 26.

From 255,762 acres planted with potatoes, the aggregate number of bushels obtained, was 23,653,418, or an average of 90 bushels to the acre. In Jefferson and Franklin counties the average yield exceeded 150 bushels; in St. Lawrence, 145; in Clinton and Orleans, 137; in Essex and Genesee, 125; in Washington, 122; in Suffolk and Wayne, 120; in Chautauque, 112; in each of the counties of Kings, Monroe and Niagara, 110; in each of the counties of Ontario, Cattaraugus, and Cayuga, 105; in Allegany, 99; in Yates, 98; in Seneca 97; and in each of the counties of Lewis and Queens, 95. In each of the towns of Antwerp and Rutland, in Jefferson county, the average yield per acre was 187 bushels. There has been a falling off of the potato crop of upwards of six millions of bushels since 1840.

From 117,379 acres sown with peas, the aggregate number of bushels raised was 1,761,504, or an average of 15 bushels per acre. In the town of Westchester, Westchester county, upwards of 170 bushels are returned as having been produced from 3½ acres, averaging 56 bushels per acre. In the county of Kings, the average crop was 35 bushels; in Richmond, 24; in Putnam, Queens, and Wyoming, 20; in Onondaga and Orleans, 19½; in Suffolk, 18; in each of the counties of Genesee, Madison, Montgomery, and Rockland, 17; and

in each of the counties of Albany, Allegany, Cayuga, Chautauque, Erie, Livingston, Monroe, Niagara, Oneida, Ontario, Seneca, St. Lawrence and Steuben, 16.

From 16,232 acres devoted to the raising of beans, the aggregate number of bushels produced was 162,188, or an average of 10 bushels per acre. In the town of Westfield, Richmond county, from 2 $\frac{3}{4}$ acres 228 $\frac{1}{2}$ bushels were produced, being an average of 114 bushels per acre; in the ninth ward of the city of Brooklyn, 1960 bushels were raised from 19 $\frac{1}{4}$ acres, being an average of 100 bushels per acre; in the town of Newtown, Queens county, the average was 91; in the county of Westchester 20; and in the counties of Cayuga and Chautauque, 15 and upwards.

From 192,504 acres sown with barley, the aggregate number of bushels raised during the year preceding, is returned at 3,108,705, exceeding by 610,535 bushels the crop of 1840, and averaging 16 bushels per acre. From 11 acres in the county of Kings, 360 bushels were raised, being an average of nearly 33 bushels to the acre. In county of Schoharie the average return exceeded 22 bushels to the acre; in the county of Suffolk, 44 bushels; in the county of Richmond, 25; in each of the counties of Onondaga and Westchester, 20; in each of the counties of Madison, Monroe, Niagara, and Ontario, 19; in each of the counties of Cortland, Oneida, and Schenectady, 18; in each of the counties of Cayuga and Chautauque, 17 $\frac{1}{4}$; and in each of the counties of Allegany, Chenango, Essex, Franklin, Rensselaer, and Seneca, 17.

From 255,495 $\frac{3}{4}$ acres of buckwheat, the aggregate number of bushels raised was 3,634,679, exceeding 12,390,241 bushels the quantity raised in 1840, being an average of upwards of 14 bushels to an acre. In one of the outer wards of New-York 300 bushels were obtained from 8 $\frac{1}{4}$ acres, or an average of nearly 38 bushels to the acre. In each of the counties of Onondaga and Ontario, the average was 21; in Genesee, 19; in each of the counties of Cayuga, Kings, Putnam, Richmond, Schenectady, Seneca, and Wayne, 18; in each of the counties of Chemung, Chenango, Clinton, Livingston, Montgomery, Niagara, Tompkins and Yates, 17; in each of the counties of Albany, Chautauque, Cortland, Queens, Rensselaer, Steuben, Tioga, and Westchester, 16; and in each of the counties of Allegany, Broome, Delaware, Dutchess, Erie, Herkimer, Monroe, Oneida, Orange, Schoharie, St. Lawrence, and Ulster, 15.

From 15,322 $\frac{1}{4}$ acres devoted to the production of turneps, the aggregate number of bushels raised was 1,350,332, being an average of 88 bushels per acre. In the county of Suffolk, however, the average is as high as 240; and in one town of that county (Riverhead) the average yield was 293 bushels. In Kings county the average was 197; in each of the counties of Monroe and Queens, 180; in each of the counties of Niagara and Rockland, 155; in Ontario, 148; in Wayne, 146; in Richmond, 142; in each of the counties of Onondaga and St. Lawrence, 140; in Otsego, 135; in Orleans, 126; in Cortland, 125; in Clinton, 122; in Essex, 121; in Cayuga, 120; in Steuben, 115; in each of the counties of Delaware, Oswego, Saratoga and Schenectady, 110; in each of the counties of Franklin and Jefferson, 108; in each of the counties of Chemung and Montgomery, 107; in each of the counties of Genesee and Seneca, 105; in Chautauque, 104; in Wyoming, 103; in Livingston, 99; in Allegany, 98; in each of the counties of Tioga and Warren, 95; in Washington, 92; and in each of the counties of Cattaraugus, Lewis and Schoharie, 90.

From 46,089 acres of flax, the average number of lbs. produced was 2,897,062 $\frac{1}{2}$, or an average of 62 $\frac{1}{2}$ pounds to the acre. In the town of Islip, Suffolk county, 120 pounds were produced from one quarter of an acre; in Poughkeepsie, Dutchess county, 360 pounds from five-eighths of an acre; in the towns of Amenia and Rhinebeck, in the same county, an average of 350 pounds per acre is returned; in Pleasant-Valley, 285, and in Clinton, 275. The average product in the county is 237 pounds per acre. In Jefferson county the average is 190; in Columbia, 187; in each of the counties of Chautauque and Chenango, 180; in each of the counties of Lewis, Queens and Washington, 175; in each of the

counties of Orange and Ulster, 165; in Essex, 164; in each of the counties of Clinton, Cortland, Franklin, Oneida, Putnam and Rensselaer, 150; in each of the counties of Oswego, Sullivan and Westchester, 140; in Warren, 139; in Delaware and St. Lawrence, 135; in Broome, 132; and in each of the counties of Greene, Hamilton, Monroe, Onondaga, Richmond, Saratoga, Steuben, Tioga and Wyoming, 100 and upwards.

The aggregate number of heads of neat cattle in the State is 2,072,330, being an average of upwards of 35,000 to each county, of which there are nearly 86,000 in the county of Jefferson; 85,464 in the county of Oneida; nearly 78,000 in the county of St. Lawrence; 66,885 in the county of Chautauque; 63,745 in the county of Chenango; 62,555 in the county of Delaware; 61,706 in the county of Otsego; 59,712 in the county of Orange; 57,506 in the county of Erie; 55,482 in the county of Steuben; 53,440 in the county of Herkimer; nearly 52,000 in the county of Allegany; 49,498 in the county of Onondaga; 47,258 in the county of Dutchess; 45,256 in the county of Cattaraugus; 45,216 in the county of Madison; 43,527 in the county of Washington; 41,584 in the county of Cayuga; and 41,300 in the county of Oswego. The number of neat cattle under one year old is 334,456, and the number over one year old is 1,709,479. The aggregate number of neat cattle is less by about 130,000 than in 1840.

The aggregate number of cows milked is returned at 999,490, or an average of nearly 17,000 to each county. The aggregate number of pounds of butter made during the year was 79,501,733 $\frac{1}{2}$, or an average of about 1,350,000 to each county, or 79 $\frac{1}{4}$ pounds to each cow milked; while the aggregate number of pounds of cheese is returned at 36,744,976, being an average of 622,796 pounds to each county, or about 36 pounds to each cow milked. In the county of Oneida, the number of cows milked is stated at 47,713; from which 3,876,276 pounds of butter, and 3,277,750 pounds of cheese were made, or an average of upwards of 80 pounds of the former and 68 of the latter. In the county of Orange, from 42,256 cows milked 4,108,840 pounds of butter were obtained, being an average of 97 pounds to each. In the county of Jefferson, from 41,360 cows, 3,080,767 pounds of butter and 2,802,314 of cheese were obtained; averaging 74 pounds of the former and nearly 70 of the latter. In the county of Kings, the average number of pounds of butter made from each cow milked was 110; in the counties of Delaware and Chenango, 100; in each of the counties of Putnam, Sullivan and Tompkins, 95; in each of the counties of Cortland, Greene, Onondaga, Schenectady, Schoharie, Seneca, Wayne and Yates, 90; in Livingston, 85; and in each of the counties of Dutchess, Ontario, Saratoga, Steuben, Tioga, Warren, and Washington, 80.

In the county of Herkimer, 8,208,796 pounds of cheese were manufactured from the milk of 36,255 cows, being an average of 226 pounds to each; in the town of Fairfield, in the same county, 1,355,967 pounds were manufactured from the milk of 3,910 cows, being an average of nearly 350 pounds. In the county of Madison, 2,022,855 pounds were obtained from 21,513 cows, being an average of 90 pounds; and in the county of Lewis, 1,420,368 pounds from 18,024 cows, or an average of 80 pounds. In the county of Otsego, the average exceeds 50 pounds.

The aggregate number of horses in the State is 505,155, being an increase of over 29,000 since 1840. In Oneida county there are 17,303; Onondaga, 16,963; in Monroe, 16,811; in Jefferson, 16,397; in Otsego, 14,183; in Cayuga, 13,922; in Erie, 13,527; in St. Lawrence, 13,470; in New-York, 13,346; in Steuben, 12,310; in Wayne, 12,258; in Madison, 11,774; in Dutchess, 11,342; in Tompkins, 11,191; in Washington, 11,115; and in each of the counties of Albany, Allegany, Chautauque, Chenango, Genesee, Herkimer, Livingston, Orange, Rensselaer and Saratoga, 10,000 and upwards.

The aggregate number of hogs returned is 1,534,344, or an average of nearly 27,000 to each county. In Dutchess county there are 66,828; in Orange, 57,265; in Columbia, 54,477; in Jefferson, 53,068; in Onondaga, 52,907; in Monroe, 48,493; in Niagara, 45,723; in

Cayuga, 43,546; in Ulster, 42,627; in Washington, 42,189; in Rensselaer, 39,262; in Otsego, 38,485; in St. Lawrence, 38,150; in Erie, 38,087; in Saratoga, 37,882; in Ontario, 36,986; in Steuben, 35,987; in Wayne, 35,873; in Westchester, 35,609; and in each of the counties of Albany, Chautauque and Niagara, upwards of 30,000. In 1840, the aggregate number of swine in the state was 1,916,953; being an excess of 332,619 beyond that of the present year.

The aggregate number of sheep in the state is 6,443,855, exceeding by 1,062,630 the number returned in 1840, and being an average of upwards of 107,000 to each county. Of this number 1,870,728 are under one year old, and 4,505,369 over one year old. The number in the county of Otsego is 270,564; in Madison, 263,132; in Ontario, 257,821; in Washington, 254,866; in Chautauque, 235,403; in Chenango, 223,453; in Livingston, 218,258; in Steuben, 217,658; in Dutchess, nearly 200,000; in Oneida, 194,589; in Onondaga, 190,429; in Allegany, 184,901; in Jefferson, 184,526; in Cayuga, 175,148; in Monroe, 173,952; in Columbia, 172,959; in Rensselaer, 170,552; in St. Lawrence, 168,314; in Wyoming, 166,365; in Genesee, 156,578; in Erie, 148,732; in Tompkins, 135,787; in Delaware, 135,633; in Wayne, 130,562; in Yates, 130,134; and in Cortland, 108,862. The aggregate number of fleeces obtained is returned at 4,607,012½, comprising 13,864,828 pounds of wool, less by 208,306 pounds than the aggregate fleece of 1840, and averaging about three lbs. to a fleece. In the county of Kings the average is upwards of six pounds.

Very respectfully, your ob't serv't,

S. S. RANDALL.

Albany, Jan. 1, 1846.

BREEDING REGISTER FOR SHEEP.

.....

A breeding register is very convenient as well as important in assisting the shepherd to preserve facts in relation to the various individuals of his flock—such as their age, genealogy, quality, &c. The following plan, given by Dr. HOLMES, in the *Maine Farmer*, appears to us to be a very good one.

"Breeding Register from July 1, '38, to July 1, '39.

No	Year in which born	Put to ram. No.	Date of lambing.	No. of lambs.		Classification of the lambs, &c., &c.	General Remarks.
				rams	ewes		
25	1833	27-4	6-4	1	1	1 class small and close curled.	Their lambs: one very feeble and died.

"EXPLANATION.—In the first column is the number of the ewe—having two notches on the upper edge of the right ear, (20) a notch on the lower edge of the left ear, (3) and two notches on the upper edge of the left ear, (2) No. 25. In the second her age. In the third, the number and age of the ram, which in this instance means ram No. 27, and four years old, being born in 1834. In the fourth column, the day and month in which the lamb came—thus, 6-4 means 6th day of 4th month. In the fifth and sixth columns are the numbers of ram and ewe lambs. In the seventh column is a classification of the lambs, according to their appearance at one or two days old. The last column is general observations."

uable as well for present information as future reference and comparison.

Sow corn for fodder any time this month

LONGWORTH ON THE STRAWBERRY.

.....

The Cincinnati Horticultural Society have lately published a communication on the strawberry, by N. Longworth. Its principal object is to establish the necessity of staminate plants planted separately, but in near proximity, to render most varieties productive. In the course of his remarks, he made some interesting observations, which coming from an experienced cultivator, may be of value to many of our readers.

He says, "In a late number of the *Farmer and Mechanic*, it is stated that three cultivators near Boston, sent *four thousand five hundred* quarts to market in a *single season*. What will our market gardeners say to this? * * * Mr. Culbertson brings more strawberries to our market than any other person. The greatest quantity he has brought in *any single day* was *four thousand quarts*."

The following remarks are made in different parts of the communication on some of the different and most celebrated varieties:

"[Hovey's (old) seedling] stands unrivalled with us for size, where impregnated. But we have other varieties, that are as good bearers, of nearly equal size, and of finer flavor. But I would highly recommend his (old) seedling to all cultivators, whether for family use or for sale."

Speaking of a fine variety he obtained from England, under the erroneous name of Keen's seedling, he says: "The Methven is a different, and far inferior fruit. I have the Methven Scarlet, sent me from Philadelphia, as the Keen. It is pistillate, and bears large fruit, but is an indifferent bearer, and of inferior flavor."

He thinks that the variety described as the Old Hudson by Downing, and as "a fruit with a neck," is not genuine, and is entirely different from the Old Hudson of Cincinnati and Philadelphia, which appears to be unknown at New-York and Boston. The Old Hudson "is wholly defective in the male organs, and has been thrown by as unproductive. It is a large and finely flavored fruit, and when properly impregnated, a great bearer. * * * M. Arbogust for many years sold nine-tenths of the strawberries brought, to our market, and raised the Hudson only. Whilst I could from one-fourth of an acre, scarcely raise a bushel, he would raise 40 bushels. His fruit was much larger than any other brought to market, and commanded from 25 to 37½ cents per quart. He made a handsome competence from the sale of this fruit. His secret he kept to himself, and had been as much noted for the size of his fruit, and the quantity raised on a given space of ground, in Philadelphia (where he removed) as he was here. A chance observation of his son one day, in my garden, saying, "I must raise but little fruit, as my plants were all males," first led my attention to the subject. I soon discovered that there were what he called male and female plants, and communicated the fact to our market gardeners. The result was, strawberries rapidly increased in our market, till as fine as had been raised by Mr. Arbogust, were sold at from 3 to 10 cents per quart, and he ceased to cultivate them."

It is well known to many of our readers that Mr. N. Longworth is a strong advocate of the indispensable necessity of staminate plants, to fertilize the pistillate ones, and render them productive. But he does not consider the plant as diœcious, but that stamens and pistils both actually exist, only one or the other are usually and permanently defective, not absent. On the other hand, Hovey and others, consider this defective quality as only caused by rich cultivation, and hence that sterility may be remedied by diminished fertility of soil, while they do not deny that productiveness may also result from the impregnation by well developed staminate plants. Others deny all benefit from staminate plants. Many experiments, conducted more accurately than most persons are accustomed to do, are needed to settle such points satisfactorily. Longworth says, "Mr. Downing, in a recent letter, assures me, that last season he raised a fine crop of Hovey's seedling, on a bed far separated from all others." The argument contained in this fact he does not demolish, but over-

leaps as follows:—"Mr. Downing, I am positive, had not Hovey's seedling unmixed with others." An intelligent and scientific cultivator should know by the appearance of the growth, leaf, or fruit, Hovey's seedling from other varieties. The suggestion however, that a variety may ripen seed, drop them and propagate thus new varieties, intermixed, and possessing the staminate character, is not without weight. The reason, too, that the plants of the nurseryman, who has many different varieties within a small space, to fertilize each other, are productive; while after they are sold and widely removed, the cause and the effect cease, is entirely plausible.

DISEASE IN POTATOES.

.....

MR. EDITOR—The columns of almost every agricultural paper I examine, are teeming with articles on the subject of diseased potatoes, but as yet, the cause seems buried in as profound a mystery as at its first appearance. It is not at all understood; and it is very much to be desired that the recently instituted inquiries in Europe, by scientific men, may lead to its discovery, for the effort thus far here, has rather shrouded the subject in deeper doubt and uncertainty, than cast any light upon it.

I made a series of experiments the past year, the results of which, I herewith hand you, not because they have elicited any new fact, but that a knowledge of them may prevent their repetition by others, for it is evident they lead not to its development, though possibly, in some other respects, worthy of it.

The ground was a sandy loam, manured with barnyard manure, at the rate of thirty two-horse waggon loads to the acre. It was plowed, dragged, furrowed with a one-horse plow in rows three feet asunder, and planted on the 12th of May. The potatoes were cut into sets containing three or more eyes, and dropped along the furrows eight inches apart. On the first ten rows, which were twenty rods long, was put a composition consisting of one bushel of lime, one of ashes, one of salt, and one of plaster, well mixed, dropped in small handfuls on each cutting of the potatoes; and the balance of the field had a dressing of like quantity of same composition, with the exception of the salt. The potatoes were then covered with a plow, and rolled with a moderately heavy roller. That portion of the piece where no salt was used vegetated directly, and came on with a vigorous and luxuriant growth; where salt was used, they were a long time coming up, and the growth then exceedingly slow, with a curled unhealthy appearance of the vine.

They were cultivated twice and hoed once. At the last time of cultivating, a one-horse plow was passed twice though each row, levelling the earth to the vines.

The appearance of all of them, with the exception of the salted, was exceedingly fine and promising, and of the latter, there were some twenty-five hills which received a less portion of the preparation, that were perhaps more vigorous than any of the others, which we attributed to this cause. They continued growing finely until August, when the ground, with the exception of the salted portion, was completely covered with vines, and a finer or more promising field is rarely seen. At this period we had a succession of light showers, followed by warm, close weather, and our vines soon began to decay, presenting precisely the same appearance as in the two preceding years, in which they have been affected. This continued until they were entirely dead, and the general impression was that the crop was destroyed; on digging, however, we were agreeably disappointed to find them, though rather small, entirely sound, and thus far, they have preserved perfectly well.

I took from the acre two hundred and twelve bushels. That portion which was salted never reached maturity. The yield was less and the quality inferior to where none was used, and this experiment has therefore demonstrated that neither salt, lime, ashes, nor plaster, are a preventive to the attacks of this disease, or a preservative of the tuber after attack, for this condition of

vine was general here, as is also this soundness of the potato.

There were some exceptions to this general decay of vine, and wherever this occurred, so far as my observation has gone, it has been on sward ground, late planted, and no manure used. I planted a piece adjoining the one on which the experiments were made. It was done on the 3d day of June, and the vines continued perfectly fresh and green until destroyed by the frost this fall, while others planted at short intervals of time, on fallow ground, for the purpose of determining whether this has any agency in averting the disease, were in every instance destroyed, though the tuber, in all of them remained sound.

Can you explain this new caprice of the epidemic, or assign any plausible reason for this general destruction of the vine and soundness of the potato? or why, those on sward ground escaped, and on fallow perished? It is certainly very inexplicable, although it puts an end to the speculation that the disease is caused by insects, for if this were so, all these pieces would have been affected in the same manner.

P.

Waterville, 1846.

IMPROVING WORN-OUT LANDS.

.....

MR. TUCKER—I will give you my views of the best manner of improving lands that were formerly good but have become poor by bad farming. And first, no land ever was good where the subsoil was of a cold gravelly nature. The top soil of our limestone land will vary from four to six, and sometimes eight inches deep, with a subsoil of red loam—the latter is generally thought good when it will make brick. There are thousands of acres of this kind of land both in Virginia and Maryland that have become very much impoverished.

To improve this land, I would collect large quantities of everything that will make manure; such as leaves, weeds, sods from the fence corners, rags, rotten wood, soap-suds, &c. These I would keep in a pile, sprinkling plaster over it occasionally, to prevent the escape of ammonia. In the next place, I would commence with the corn crop. I would have three stout horses, and a plow (of Washburn's make, of Frederick,) 22 inches from the bottom of the share to the bottom of the beam, (without a coulter.) I would plow the land late in the fall 12 inches deep, which would throw up part of the subsoil to the action of the sun and air. By all means have some manure put on the land before the corn is planted. The next season; plow in the corn stalks in June or July,—in other words make it the fallow-field for a wheat crop. Plow as above stated the first time, harrow well, and then, if you have it, put on about 50 bushels of lime to the acre, and some manure. Plow shallow the second time, and about the middle of September sow 1½ bushels clean wheat to the acre, harrow well, and then sow seven quarts of clean timothy seed to the acre, and roll the field. In the spring following, sow about the same quantity of clover seed. If the land is inclined to be wet, you may vary the seed a little, and sow 8 quarts of timothy—if very dry, sow 8 quarts of clover and 6 of timothy. No stock must go on the land after the wheat comes off in the fall, nor until the next season, when the clover is in blossom, and then only enough to crop a little. The next summer the field may be mowed for the first crop, and the second crop be left on the ground. There must be no stock on the field this year.

I can assure you I have seen land improved 100 per cent by this course of farming. It is the commencement of what may be called a rotation of crops, such as in Lancaster county, Pennsylvania, has so much improved the soil.

WM. TODD.

Utica Mills, Maryland, May, 1846.

CUTTING FOOD FOR SHEEP.—Thomas Noble, in the Ohio Cultivator, says—"My sheep consist of 1600 head, and so far, I have lost none. We cut all their feed, and the saving thereby is at least one-third."

DESTRUCTION OF PEACH BUDS.

.....

It very rarely happens that the young fruit of the peach is killed except by the severe cold of winter. It often excites surprise that the cultivator is enabled to decide with tolerable certainty, by the time that the severe weather of winter closes, whether a crop may be expected.

The cause most frequently destructive to the peach crop in the northern states, is warm weather late in autumn or during winter, causing a slight swelling of the buds. After thus started, even though to a slight degree, very severe cold destroys them. Cultivators of fruit wish to know, as soon as practicable, whether their crops are destroyed. When the thermometer sinks several degrees below zero, there is nearly always reason to fear that at least a part of the fruit-buds are killed; as previous warm weather, even if it has scarcely swelled the buds, may have filled them with moisture, and rendered them liable to destruction. To determine the point, then, let the flower buds be examined a few days after the cold weather, by cutting them transversely through the middle. If they are injured, the centre will appear dark brown, as represented by *a*,

*a**b*

Fig. 56; if uninjured, they will appear of a uniform greenish white, with no brown spot at the centre, as shown by *b*, the stamens, and other parts of the flower being entirely fresh. A little practice will enable any one to determine this point at a glance.

The first buds are readily distinguished from the flower buds, by their round and obtuse form, as shown by *c*, while the leaf buds are slender and more pointed as exhibited by *d*. On the lower parts of the young shoots,

Fig. 56.

the fruit buds are usually double (*e, e*.) with a leaf bud between.

The past winter exhibited some curious illustrations of the effect of situation and other causes in preserving the life of fruit buds. A considerable portion of the northern part of Western New-York consists of irregular hills and valleys, the hills rising from fifty or a hundred feet or more above the ordinary level. In the valleys, from their warm sheltered situation, the growth of the peach is more rapid; it does not become so well ripened and hardened for winter; warm days more quickly start the buds; and the cold air of still, frosty nights settling in the hollows, and the radiation to the clear sky above being unobstructed by the stillness of the air, the destruction of the fruit buds is very frequent. But on hills, these causes do not operate; hence in many localities, while the crops fail rarely half the time in valleys, they are scarcely ever even diminished on the hills. In an orchard belonging to the writer, thirty feet above the neighboring creek valley, not one in ten of the fruit buds escaped the present year; while on another hill only twenty-five or thirty feet higher, the trees are full of blossoms. Indeed, the difference in temperature, as indicated by a common thermometer, between a valley and a hill fifty or a hundred feet above it, in favor of the latter, usually amounts to many degrees on still clear nights. This difference alone would often be sufficient to cause entire failure in one case, and preservation in the other.

On many trees of medium elevation, at the present time (early part of 5 mo.) the upper branches only, are filled with blossoms, while the lower are entirely destitute; the reflected heat from the ground having started the lower buds and thus rendered them liable to injury from frost.

Another singular appearance is, that while many trees from one foot upwards show no blossoms and are perfectly bare, the lower straggling branches which

happened to be under the snow at the time of the cold, are filled with a dense profusion of flowers. Such trees exhibit accurately the depth of the snow at the time of the injury, and show conclusively when it took place.

In other cases, snow, by keeping the trees cool in warm days, and thus retarding the swelling of the buds, may save the crop, though afterwards exposed to cold several degrees below zero.

The morning sun on a frosted plant, by causing sudden thawing, is usually destructive to its vitality, when gradual thawing would be safe. Hence buildings and steep hills on the east side of peach trees, have led to the singular and erroneous conclusion that *east wind* does the mischief. Hence also one reason that unfrozen rivers and lakes, by the screen of fog they throw off, afford protection, as well as by softening the severity of the cold.

The preceding and other observations, have led to the following conclusions:

1. That the difference of several degrees between the temperature of sheltered valleys and small hills close at hand, shows that the common unqualified statements of the temperature by the thermometer, of certain parts of the country, is too indefinite for dependence.

2. That in countries abounding in small hills and valleys, or consisting of rolling land, the hills are far best for peach orchards, soil and other things being equal. Unfreezing bodies of water in the neighborhood, of course reverse the rule.

3. That examination of the fruit buds after cold weather, if on the lower branches only, may lead to too unfavorable conclusions.

4. That if the buds have been but slightly swollen, a few degrees below zero usually causes their destruction.

THE POTATO.

.....

To what localities is the potato indigenous? It is well established that this esculent was not known on the old continent till it was carried there from America. The noted navigator Sir Walter Raleigh introduced it into Ireland and England in 1565. The same year it was also taken to England from Santa Fe, by Capt. Hawkins. It has been stated that Raleigh obtained it in Virginia. But is it now found in a wild state in any part of North America? Loudon, in his *Hortus Britannicus*, gives Peru as the native country of the potato, and travellers have asserted that it is found not only there, but in Brazil, and some other parts of South America.

We have been led to some reflections on this subject by a perusal of SCHOOLCRAFT'S "Report on the Iroquois," to the Legislature of New-York, 1846. Speaking of the plants cultivated by these tribes, (p. 12, 13,) it is remarked—"The potato was certainly indigenous. Sir Walter Raleigh in efforts at colonization, had brought it from Virginia under the original name of *openawg*. But none of the North American tribes are known to have cultivated it. They dug it up, like other indigenous edible roots, from the forest. But it has been long introduced into their villages, and spread over the northern latitudes far beyond the present limits of the *zea* maize."

If it is a fact that the potato was known to any of the Indian tribes which formerly occupied territory now in possession of the United States, before the discovery and settlement by the whites, how long is it since the wild plant became extinct? Or may it not still exist in some of its natural uncultivated haunts?

FEEDING HENS.—J. N. Dowd, in the Boston Cultivator, says a bushel of corn will last hens twice as long as a bushel of buckwheat, but that he prefers the latter, as it makes hens lay eggs more than any other grain, and overbalances in profit, its additional cost.

CARROTS FOR HORSES.—J. Frost, of Elliotville, in the same paper, says that carrots fed to horses with dry food, are worth as much as oats, feeding alternately, one day with carrots and one with oats.

HINTS ON THE CONSTRUCTION OF FARM-HOUSES.

BY A. J. DOWNING.

ANY one may see that a decided taste is beginning to manifest itself at the present moment in rural architecture. Every where, in the middle and eastern states, one sees that the newly built cottages and villas are no longer in those clumsy and unmeaning forms that ten years ago so generally prevailed.

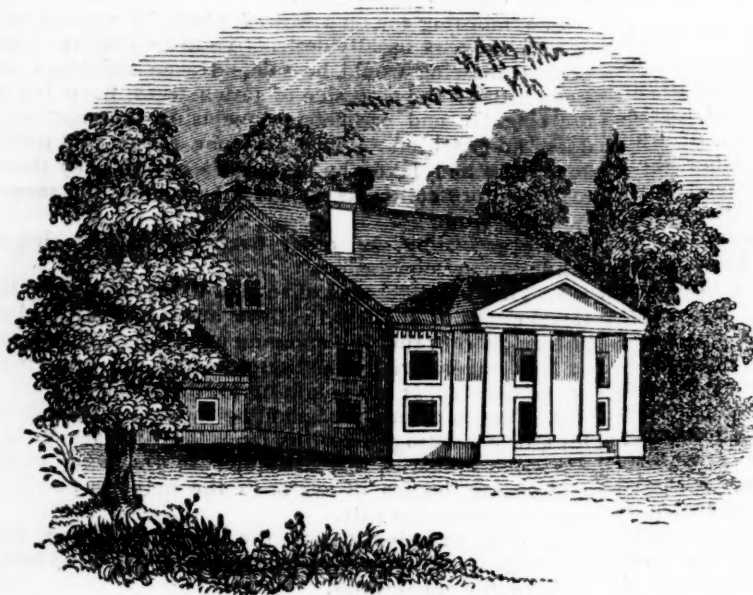


Fig. 52.

the farm-house. It seems to us to be worthy of the attention of every one who would render our country life expressive of its true usefulness and beauty.

We should be glad in this brief space, to say a few words about farm-houses; our limits will, however, only permit us to point out a few errors into which our country builders have hitherto fallen. Something may perhaps be gained even by considering the mistakes into which those most commonly fall, who have built with little reflection.

In the first place, we think a farm-house should be *unmistakably a farm-house*. That is to say, it should not be a citizen's dwelling-house, or a suburban villa, set down in the midst of a plain farm.

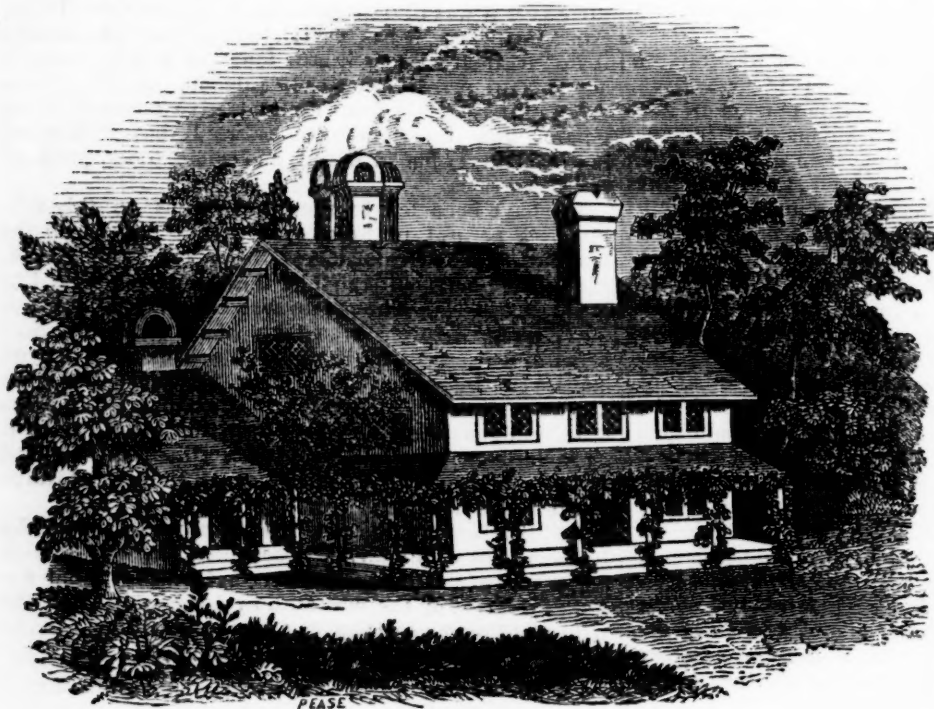


Fig. 53

tim to it, instead of employing the more comfortable and more characteristic verandah. Fig. 53.

Another of the greatest mistakes in building a farm-house, is to adopt any thing like a *flat roof*.—(Fig. 54.) A broad and rather high roof is as essentially a handsome feature in a farm-house, as the expanded chest and broad shoulders are in the farmer himself. It is a kind of beauty that springs out of a most natural and enduring source—manifest utility.

The roof of a farmer's house ought then to be high, so as to give him an ample garret—that useful store-house of country varieties. It ought to be rather steep, to bear and carry off rapidly the burdens of heavy snows and

This is a most hopeful and encouraging symptom. It tells us very plainly that our country proprietors have begun to give some thought to the construction of their own houses; that they are no longer content with what the nearest carpenter or mason may have to offer as the latest style; that they have at least a desire for something fit for their own wants, the beauty of which is of a kind becoming and suitable to the purpose in view.

In this aspect of things, nothing is more to be desired, than the general prevalence of correct principles of taste among our agriculturists of intelligence.

The FARM-HOUSE in this country is not the hovel of the serf—is not the hut of a peasant. It is the cottage of a freeman—the proprietor of the soil he cultivates. It is the home of the best virtues and the soundest hearts. It must necessarily—if it be true to itself—give a character of moral and physical beauty to the whole rural scenery of the Union. Let us not deny, therefore, the importance of

Nothing has been more common for the past ten years, than to see a good substantial farmer building a large plain dwelling—unobjectionable enough as a plain dwelling—but to which he has been persuaded to add a Grecian portico, (fig. 52,) copied from a great house of the neighboring town or village.

The portico is very well where it belongs—as a part of a handsome villa, every part of which is carefully finished with corresponding elegance. It has nothing whatever to do with a true farm-house. It is too high to be comfortable by its shade or shelter. It is too costly and handsome to accord with the neat and rustic character of a farm-house. But it has been the fashion of the day, and, if the farmer has not reflected for himself, it is ten to one that he has fallen a vic-

the violence of wintry storms. It ought to be strong, and little liable to speedy decay—that the purse may not be called on for frequent repairs.

The flat roof comes to us from southern countries and mild climates. In town-houses, and ornamental villas, in the classical styles let the architect satisfy the demands of art with such a covering to his house. But in the exposed farm-house, in our blustering, sturdy weather of the north, the farmer should have none of it. He must nestle under the high and broad roof which properly belongs to a northern climate. (Fig. 55.) This has all the beauty of thoroughly answering its purpose, and conveying at a glance the most complete notions of comfort.

When it is desired to render a farm-house ornamental, it is the most fatal, though the most common of all mistakes, to suppose it should be done by the imitation—the meagre imitation of some gentleman's fine house. It is a mode that is never successful. It is the old story of the jay in his borrowed peacock's plumes. Every one detects and exposes the want of fitness and propriety. Fluted columns, ornamental pediments, moulded friezes, and the like, have little or nothing to do with farm-houses. They will give an ambitious and flashy character to the front; it will be belied by the useful and every-day character of the rear.

The truth is a farmer's house looks as ill when bedecked with the stolen ornaments of a highly architectural villa, as the honest dignified, plain farmer himself would, if tricked out in the fashionable finery of the reigning Paris exquisite. The beauty of propriety is a species of moral beauty even in houses and clothes.

There should be a kind of homely country-like air about every genuine farm-house. It ought at the first glance to be recognized as belonging to the open meadows, orchards and pastures, that surround, and the fresh luxuriant trees that wave over it. It should be neat and strong, and capacious and comfortable. If something is wanted beyond this—and we are sure our farming countrymen will more and more desire a manifestation of the agreeable about their houses—then should something ornamental combine itself with the most important and useful features of the house. Let a verandah be added, which may be adorned, not so much with expensive pillars, as with beautiful and fragrant climbing plants. Let the porch be made a suitable covering to the principal entrances. Let the gables be enriched with simple ornaments, and the chimney stacks be built in some pleasing forms. These are the first

points that really demand attention in a farmer's house, which we wish to raise to its highest expression of fitness and beauty. Some examples of this kind of rural architecture we hope to be able to offer at no distant time. These trifling hints may perhaps lead some agricultural friend to consider what is essential to the character of a farm-house, and thus at least prevent his marring the beauty of simplicity and propriety. A. J. DOWNING.

Highland Gardens, Newburgh, Jan., 1846.

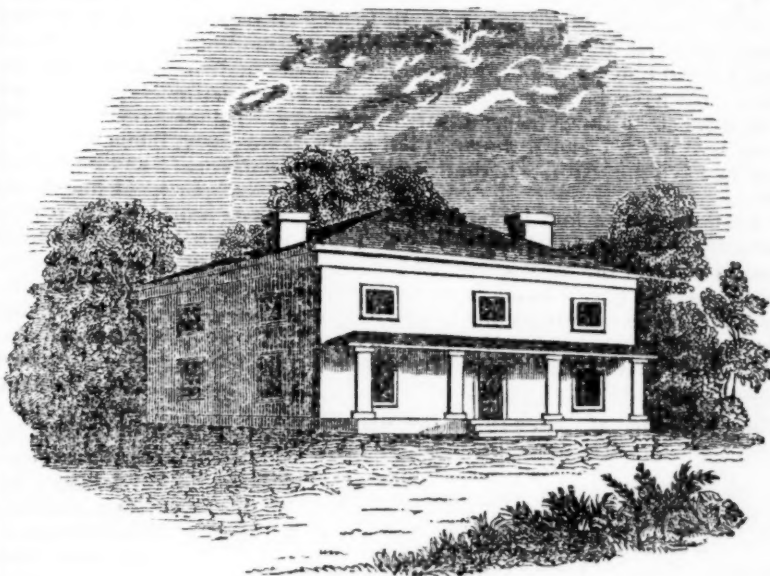


Fig. 54.

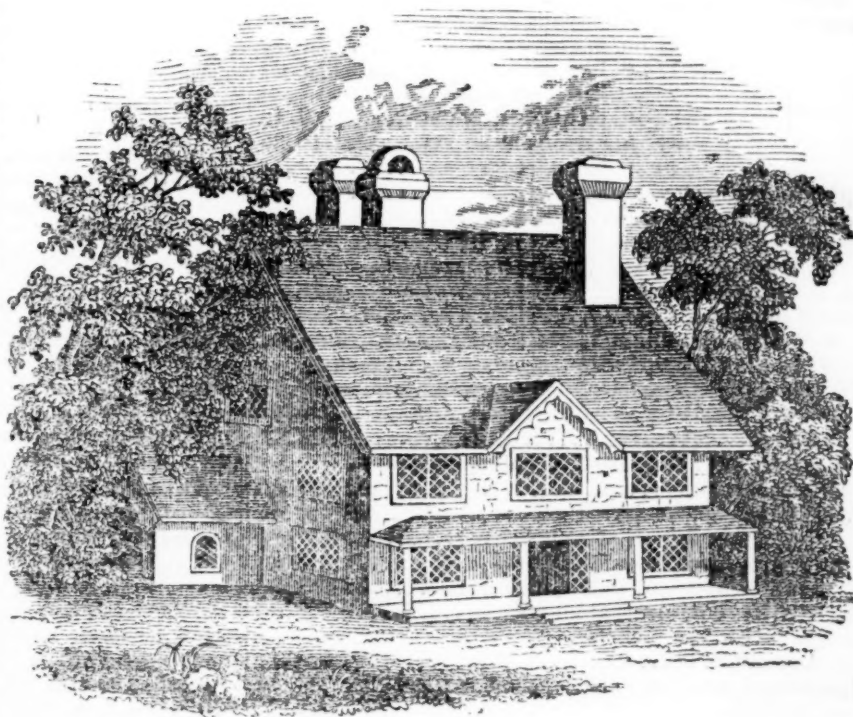


Fig. 55.

INDUSTRY.—The people of Massachusetts annually produce 50 per cent. more property or wealth than any equal population in the United States, according to the most accurate returns. Though not one sixth of New-York in extent of territory, that state has seven hundred miles of railroad in operation.

CLOVER SEED EXHAUSTING.—A correspondent of the "Genesee Farmer" says that he has found raising the seed of clover to be very exhausting to the soil. What is the experience of other farmers?

WHEAT.—The total amount of wheat imported into Great Britain in 1840, from all other countries, was 1,993,405 quarters. Only one twenty-fifth of this amount was sent by the farmers of the United States, though possessing equal advantages as to duty.

SHRINKING OF CORN.—The Genesee Farmer says that a bushel of shelled corn will shrink, from the time it is usually harvested till thoroughly dry, about 22 per cent. in bulk. Hence in statements of large crops, you must usually discount about one-fifth.

FATTENING HOGS.

L. TUCKER, ESQ.—I have frequently seen in the Cultivator details of experiments which I think are calculated to throw light upon the science of agriculture; and I should be glad to hear through that medium, from those that have had experience upon fattening cattle and sheep with the ruta-baga, carrot, beet, &c. I hope they will not wait until they can tell a favorable story. Let us have the truth, whether favorable or unfavorable.

I hereby send a few accounts of rearing shoats and fattening hogs, which I have tested. I do not think the breeds were of the most approved kinds. I bought the stock, having partly fallen into the opinion that "the breed is in the mouth, as one of my neighbors says. I am now satisfied that the less those persons have to do with hogs who pay no attention to the breed, the better.

9th mo., 8th, 1844, I shut up 5 pigs, worth \$9.50
They consumed 34½ bu. corn in the ear, 20 cts., 6.90
22½ " corn meal, 40 cts., 8.93
15 " apples, 6 cts., 90
5½ " potatoes, 25 cts., 1.38

Amount, \$27.61
3d mo., 25th, 1845, sold the above pigs at 3¼ cts.
a pound, alive, 25.00

Loss, \$2.61

Again, in the spring of 1845, I had 16 pigs worth, \$16.00
They consumed 261 lbs. feed at 70 cts. a hund, 1.83
67 bu. corn meal, at 45 cts., 30.15
17½ " hog corn, at 40 cts., 7.00
28½ " ears corn at 25 cts., 7.19
36½ " potatoes, at 25 cts., 9.12
41 " carrots, at 25 cts., 10.25
19 " beets, at 25 cts., 4.75
2 pigs added to the above, 5.40
Time of feeding, about, 0.00

Amount, 91.69

Cr.
By 6 pigs sold, \$1.50, \$9.50
" 7 barrows sold, at 3½ cts. a pound, 35.23
" 5 sows, " 3½ " 22.99
..... \$67.72

Loss, \$23.87

Again, 9th mo., 8th, 1844, I put up a sow to fatten, worth, \$7.50
Feed, 7½ bu. apples, at 6 cts., .45
1½ " potatoes, at 25 cts., .4
17½ " corn in ear, at 20 cts., 3.45
4½ " meal, at 40 cts., 1.80
2½ " cob meal, at 20 cts., .50

Amount, \$14.14
Slaughtered the above and sold 365 lbs., at 4 cts., 14.60

Gain, .. .46
The above sow was more than an ordinary sow for goodness.

And again, 9th mo., 8th, 1844, I put another sow with the above, which we will suppose ate as much as she. The grain and other things for these two, as well as for the other lots, was accurately measured.

Worth of sow, \$5.00
Amount of grain, &c., consumed, 6.64

Amount, \$11.64
Slaughtered and sold, 7.05

Loss, \$4.59
This sow did not do well, perhaps we ought not to consider it a fair case. Let others give their experience and we shall be enabled to judge of the profits and losses.
J. E. MACOMBER.

Farmington, 4th mo., 17th, 1846.

WESTERN SALT.

MR. TUCKER.—In the last (Dec.) No. of the Cultivator, is an essay "on the curing of provisions for the British Market," by "an apprenticed packer." His directions are no doubt good, much superior to the careless, go-ahead mode usually practised in this country. And provisions, so put up would not only be much better for the British market, but for our own; and no doubt would pay for the extra care and attention.

I find in the article mentioned, the following: "By way of parenthesis, it may as well be here noted, that neither Kanawha, Zanesville, or Goose creek salt should be allowed to touch your meat, either directly by mixture with the salt, or indirectly, through the medium of brine; for so sure as any of these salts are used, so sure will your meat become slimy like fish, and be imperfectly cured." By this, great injustice is done to the salts named, and especially Kanawha. To correct which, and that our domestic manufacture may stand on its own merits, divested of prejudice is the object of this communication.

I would state that I have been many years at Kanawha, and a few years at Geddes, N. Y., engaged in the manufacture of salt, both coarse and fine, and that I am not now engaged in its manufacture anywhere, or have any interest in it, direct or indirect. I would premise that all the salt water obtained anywhere in the Ohio Valley, or on any of the tributaries of that river, is of a different quality, or the impurities in it are different from that got in any other section of the United States. The impurities in the salt water within the region mentioned, are all of them muriates, or what the chemists would call of this order. Consequently there is none, or if any, a mere trace of either the carbonate or sulphate of lime, the great impurities that the manufacturers have to contend against in New-York, and at Holston in this state. The weight of all these impurities is much greater than that of brine, and will not crystalize except at a great heat, or incorporate with the crystal of salt only when the heat is great enough to produce considerable agitation in the brine.

Now my process of making brine, that will completely saturate it with salt, must and will throw to the bottom all these impurities, and if suffered to remain in a state of rest for twenty-four hours, and drawn off without agitation will afford a pure brine. The quantity of impurities at the bottom will of course depend on the purity of the salt; which can easily be told in drawing off, by the greasy and slimy appearance, as soon as all the pure brine is exhausted.

To make pure and perfect brine from any salt, or salt of the quality of the ordinary fine salt of Kanawha, Zanesville, Goose Creek, or of the Onondaga, N. Y. fine salt, put in fifty pounds of salt to every sixteen gallons of rain or river water, heated to the temperature of 150 degrees; stir it well for an hour or two, and let it stand perfectly still for twenty-four hours, and it is fit for drawing off, and it is pure brine down to the impurities, which are all in the bottom and are, if of the western salt, as before described—if or the N. Y. salt, a mass of white matter like lime. If it should be wished to make brine from cold water, salt and water in the same proportion; but should be well stirred, for a week or ten days, each day; and then suffered to stand for 24 or 48 hours, and proceed as before. The colder the water the greater the length of time necessary to make perfect brine; and a certain test at all times, is to suspend a small line over the brine so that it will sink into it a few inches; when the crystals of salt adhere to the line, it is then saturated and pure brine.

Undoubtedly it will take more of the common salt of our country to make a given quantity of pure brine than it will of the pure coarse salt either of the domestic or imported article; but then the difference in the price will make the common article much the cheapest.

The salt heretofore manufactured at Kanawha was made in iron kettles with rapid boiling; consequently, as is the case with all salt so made, much of the impurity that is in the salt water is incorporated in the crys-

tals of salt by its continual agitation. But all the salt now made at Kanawha (between two and three millions of bushels this last year) is made in wooden reservoirs, heated by pipes running through the brine, with the steam generated by the boilers in reducing it to brine, at a temperature of some 30 or 40 degrees below boiling, so that there is but little agitation in the brine; making as pure an article of fine salt as is made anywhere, either domestic or foreign.

The coarse or alum salt made at Kanawha, is as pure as any salt made in the world, (there has not been much made for the last few years, because of the low price of the imported article it has been more profitable to make the fine salt) as the accompanying analysis, by Professor James B. Rogers, (late assistant geologist of this state,) will show.

Professor Rogers says:

"A chemical examination of good average specimens of the three following varieties of salt, give these results.

Kanawha Alum salt, after being carefully dried, absorbs from the air, of moisture,	0.66 per ct.
Turks Island, ditto,.....	0.06 "
Holston, ditto,	merely a trace.
Kanawha Alum salt contains of earthy impurities, principally muriates,	0.9 per ct.
Turks Island, ditto,.....	2.2 "
Holston, ditto,	1.5 "

The impurities in the two latter consist principally of sulphate of lime, and magnesia."

The coarse salt made at Syracuse, N. Y., is also a good and pure article, equal in purity to any imported. The Holston, (Washington county, Va.) salt is a coarse salt; but there never was but a small quantity of it made there of that quality. The salt water there is quite similar to that of New-York, and the salt usually made, like their fine salt.

We have and do make as good salt in this country as the "Liverpool coarse sack salt," the opinion of "an apprenticed packer" to the contrary notwithstanding; who no doubt formed his opinion honestly, but rather hastily.

There is much prejudice existing against our domestic salt, which I am in hopes our manufacturers will disperse, by making, as they can, a pure and good article.

Locust Lane, Fayette Co. Va.

G. H. P.

PROTECTION OF PEACH TREES.

.....

L. TUCKER, Esq.—In the November number, among the "Facts and opinions condensed from various exchange papers," I observed an extract from the Southern Planter, in which G. C. Dobson recommends the use of tar to preserve the peach and nectarine tree from worms, in which he has succeeded without any failure. I have the experience of nine years to add to this testimony in behalf of tar, when used to the root of the peach tree to preserve it from the worm. My method of using the tar does not differ except that I apply a bandage of muslin to keep the tar in its place, and more effectually to keep the insect from the trees. I have restored worm-bitten trees, that bled profusely, to a sound bark and abundant fruitfulness, and that now, at the age of eleven or twelve years, are thriving trees.

My experiments to discover the remedy for the "yellows" have partially failed, owing, I believe, to having blended the "yellows" and the effects of the peach worm together. I look now to chemistry to give a clue to the matter.

Analysis of a healthy tree and of a portion of the soil in which it grew, compared with the elements of a fatal case of the "yellows," and of the soil in which it perished, may give us a hint of something that art can supply, to cure the disease, or prevent its occurrence.

I would be much obliged to any of your chemical correspondents, who would favor your readers with a description of a simple apparatus, for conducting analyses of the most common earths, alkalies, and minerals, with the various tests, and mode of application. The advantage would be great over our present state of infor-

mation. If every farmer could ascertain what proportion of lime, magnesia, potash, &c., were contained in each of his fields, and how much magnesia, &c., if any, in the lime he buys.

ANDREW BUSH, M. D.

E. Coventry, Chester Co., Pa.

BUTTER-WORKER.

.....

In the Cultivator, new series, vol. 1, p. 340, the Editor noticed a *Butter-Worker* exhibited at Worcester Mass. I wrote there, requesting a more particular description of it, in hopes thereby, to improve upon the one that I had previously begun to make on a similar principle; but as I was not favored with a reply, mine was finished without having the desired advantage of a pattern to work from. It however operates satisfactorily. I will endeavor to describe the parts, and can venture to recommend it as preferable to the usual mode by a hand ladle, particularly in cool weather.

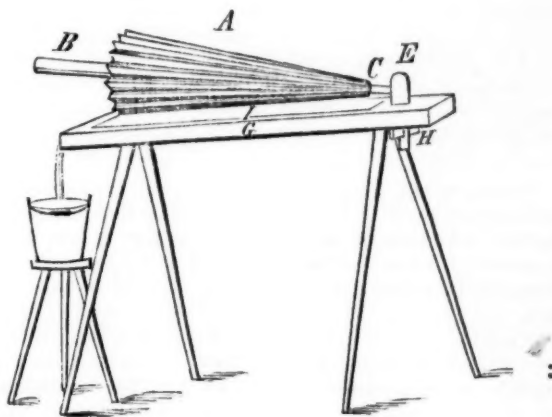


Fig. 00.

A, fluted roller, 24 inches long, 8 inches in diameter at handle, tapering to 2 inches at the shank; 16 flutes or creases, worked to an edge so deep as to make the inside of the flutes, a right angle and running out to the surface of the shank.

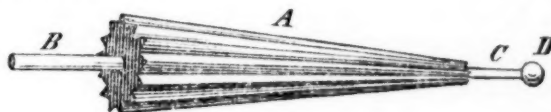


Fig. 06.

B, handle; straight, $7\frac{1}{2}$ inches long, 2 in diameter
C, shank; 5 inches long, $1\frac{1}{4}$ in diameter.
D, ball; 2 inches in diameter.

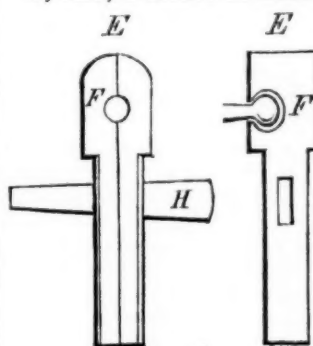


Fig. 00

E, socket block, made of two pieces, each $3\frac{1}{2}$ by $1\frac{1}{2}$ inches, shouldered to rest on the top of table, passing through, secured by a key wedge through both parts, length so as to bring the bottom of the roller fair upon the block.

F, socket turned into the block, one half the socket in each part. 4 inches from the top, to enclose and confine the ball, which should, how-

ever work freely.

G, table, inclined.

H, wedge-key, to secure the socket block firmly to the table.

I, marble block, 24 inches square; around it a gutter cut in the table to receive the buttermilk, and conduct it to a central point, where it can pass off in one stream.

If a more simple or useful machine for the purpose is in use, I shall be pleased to see it described in the Cultivator.

ROBT. WHITE, Jr.

New-York, 4th mo., 1846.

HAY MAKING.

.....

Why not adopt the same rule in regard to the time of cutting clover and grass for hay, that is followed in cutting medicinal herbs? The object in both cases is to secure the intrinsic virtues of the plant. In curing herbs, as all acquainted with the subject admit, the most proper time for cutting is when they are in full bloom: and it is also admitted that they should be cured in the shade, because if exposed to the more direct influence of the sun and air, some of their valuable properties would be evaporated.

We know there is some difference of opinion in regard to the proper time for cutting grass. The advocates for ripe hay contend that there is more "substance" in it, and that it will "go further" in feeding stock, than that which is cut while it is in blossom. And so we suppose there is still more "substance" in scrub-oak brush, and that it would go still farther in feeding (not supporting) stock. Admitting there is more substance in ripe grass, is it a kind of substance which affords more nourishment to animals?

Plants, at the time of flowering, contain starch, gum, and sugar; all of which are known to nourish animals. In the formation of seed, the stems and leaves are exhausted of these substances, and the substance which remains is chiefly woody fibre. But it may be said that the composition of woody fibre, starch, and gum, are nearly the same. Admitted, but this does not prove that animals are able to extract nearly an equal amount of nourishment from each. The composition of the diamond, the hardest of all substances, may be said to be similar to that of starch, gum, &c.,—carbon being the chief element of all; but the digestive organs of animals would hardly be able to convert the diamond into organized tissue. And though woody fibre, if eaten by cattle or sheep, might "stick by the ribs," we think the ribs would not acquire from it much fat, or the system much strength.

In some parts of the country, animals are actually *fattened* for market on hay alone. This may sound strange to those who feed their stock only with clover and timothy which has gone to seed; for we presume their stock was never thus fattened. But where this object is attained, the grass is cut while it is quite green, (not past bloom) and made and preserved with great care. It is true there are some kinds of grasses,—as the "spire grass," or "Kentucky blue grass," (*Poa pratensis*) which make but little bulk in seed-stalks, the chief growth consisting of leaves which spring from the root. The greatest value in fodder would be obtained in such cases by allowing the crop to grow till it had acquired its greatest bulk. This remark however by no means applies to clover, or timothy, or the grasses usually cultivated for hay.

In making hay, we would expose it to the sun and air no more than is required to effect its preservation, for the same reason that is above given in reference to curing herbs. Clover can be cured—indeed it is more conveniently cured—with but very little exposure to the sun. If it is not wet, and is fairly wilted, it may be put with forks, into cocks, which will weigh, when dry, about fifty pounds each, and will effectually cure. Timothy, also, may be cured in the same manner. The finer grasses, when thrown into a body, pack more closely and afford less space for the air; consequently they require to be more thinly spread in making.

Excepting with clover, which we never spread out of swath, our practice has been to spread out the swaths as evenly as possible, if the burden is stout, as soon as the dew is off; in the afternoon, rake and cock it before the dew falls. We prefer putting it in cocks, even if it is no more than wilted, because the sweating it will there undergo in the course of twelve hours,

will much facilitate the making, and if the grass is coarse and hard, it will render it much more soft. Besides, hay that has been well sweated in cock, is not liable to ferment in the stack or mow.

Whether the hay which was mowed and put in cocks on the first day will make so that it will do to go to the barn on the second day, depends of course on its condition, and the state of the weather. If all appearances indicate that the hay can be made sufficiently on the second day, (and repeated observations only can determine the degree of dryness which is required,) open the cocks and shake the hay out lightly, thoroughly breaking all the locks with the fork. But it should not lie spread out later than three or four o'clock in the afternoon, but should be put up again, or if dry enough, put in the barn by this time, lest it contract moisture. If from the condition of the hay or the appearances of the weather, there is a probability that the hay cannot be made enough in one day, let it remain undisturbed till the weather is favorable.

There are one or two other considerations in favor of early cutting which we omitted to notice above. It is admitted by physiologists that plants exhaust both their own energies and the soil, more in forming seed, than in the whole preceding portion of their growth. Thus when grass is suffered to ripen, it gives but little after-growth, and from the exhaustion mentioned, the sward more quickly dies out.

MR. WOOLWORTH'S LECTURES.

.....

In our May number, we published some resolutions which were passed at an agricultural meeting in Homer, in reference to the lectures of Mr. WOOLWORTH, on Agricultural Chemistry and Geology delivered in that place. Through the *Cortland County Whig*, we have received the address which was made by Mr. AMOS RICE to Mr. WOOLWORTH, on the presentation to the latter gentleman of the silver cup, spoken of in the resolutions.

We have read the address and Mr. WOOLWORTH's reply, with much pleasure. It is no flattery to say they are good, and could we find space for them in our columns, our readers would no doubt be gratified by their perusal; but we are compelled to pass them with only the following extract from Mr. WOOLWORTH's speech:

"Do you ask me if I would make the farmer a learned man? I answer, yes, in all that relates to his business, and the processes by which it is carried forward. In this sense, I would have him learned as the Counselor is learned in the principles of the Law; the Divine in Theology, and the Physician in Anatomy and Materia Medica. Will his arm lose its vigor because his intellect is strong, or his granaries be empty because his mind is stored with knowledge? The contrary rather. And then, as any human employment becomes intellectual, it increases in honor. It becomes appropriate to man—reasoning, thinking man. It loses that which is peculiar to the brute, or the slave, and acquires a character which is noble and dignified. In this way agriculture is destined to become the most honored of human pursuits. Such, it is even now rapidly becoming. Some of the means by which this change is now being wrought have been strikingly presented to you this evening. They have already changed the reproach of 'Book Farming' into an honor."

"Looking forward to the prospects before us, we are cheered by auspicious omens. Men of strong arms and stout hearts, and clear heads, are united in this great work. No division of sects and parties distract their counsels, and paralyze their efforts. The spirit of the age is the spirit of peace—most congenial to the skillful cultivation of the earth. When the dark clouds of war frown over our beloved country, and threaten to deluge her fair fields in the blood of their cultivators, our hope is in such influences as the acts you cultivate exert. They will check the impetuosity of ambition, and change the fierce spirit of war to the quietness of peace."

PROFITS OF HENS.

.....

A correspondent at New-Brunswick, N. J., gives the following account of an attempt to make hens profitable. He says—"I fitted up for them a spare out-building, letting them run in the barn-yard and in a small field, containing about an acre and a half. The result for the last year is as follows:—

Dr.	
To 45 hens, at 25 cents,	\$11.25
" 4 cocks, at 50 cents,	2.00
" grain fed,	20.00
	\$33.25
Cr.	
By 3302 eggs,	\$34.02
" chickens killed during the summer and fall,	14.84
By 100 fowls on hand, at 25 cts.,	25.00
" 4 cocks, at 50 cts.,	2.00
	\$74.86
	33.25

Thus you will see I have a clear gain of \$41.61

My own labors I count as nothing, because they were given in the morning and evening, when I had little else to do. I hope this will induce all those farmers who now let their fowls roost in the trees, and get their living as they can, to build a fowl house, the ensuing season, and commence to keep a debtor and credit account of them."

In reference to the same subject a correspondent at Castleton, Vt., writes:—"I will state the amount of eggs that I gathered from the first of January, 1845 till the first of November, 1845, ten months.

Jan. and Feb.,	196
March,	358
April,	413
May,	375
June,	219
July,	112
August,	241
Sept.,	211
October,	113

Total,

2248
"I had 22 fowls—21 hens and 1 cock. One hen was set in April for early chickens. In June I killed five hens, and three more set and hatched, making four that raised chickens. There was feed by them constantly from the first of January to the first of July, after which they were fed morning and evening. They ran at large all the time, and many eggs were lost in consequence. I have looked over the last three volumes of the Cultivator, and I do not recollect to have seen so large an amount of eggs from the same number of hens."

SOUR SOILS NOT NECESSARY TO PRODUCE SORREL.

.....

L. TUCKER, Esq.—Among the many popular superstitions in vogue at the present day, there are none more easily refuted than that which supposes acidity in the soil to be the *sine qua non* to the growth of sorrel, (*Rumex acetosa*.) So far from the truth is this idea, that it may with confidence be affirmed, that on such a soil, sorrel can not grow. At least, it may be demonstrated, that, unless an alkali be present in the soil, the plant cannot attain perfection. Why a sour soil should be considered more necessary for this plant, than for the pie plant, or any of our sour fruits, I am at a loss to imagine. That it is not, may be conclusively shown by a chemical analysis of the plant itself. The leaves of sorrel owe their acidity to the presence of a salt called by chemists, the *binoxalate of potassa*. This is composed of two equivalents of *oxalic acid*, and one of *potassa*. This alkali, all will admit, is drawn from the soil. But whence comes the acid. As a preliminary to answering this question, I will state that oxalic acid

is composed of *two eq. of carbon, three eq. of oxygen, and one eq. of water*. This differs from carbonic acid, which is largely absorbed from the atmosphere by all plants, only in containing less oxygen.

The following table exhibits the composition of several vegetable products, and shows how simple is the process of converting any one of them into another.

Oxalic acid contains 2 eq. carbon, 3 eq. oxygen, 1 water.*				
Carbonic acid	" 2	" 4	" 4	"
Acetic acid	" 4	" 4	" 4	hy'gn.
Tartaric acid	" 4	" 5	" 3	"
Cane Sugar	" 12	" 11	" 11	"
Grape Sugar	" 12	" 14	" 14	"
Starch	" 12	" 10	" 10	"
Gum	" 12	" 11	" 11	"

Now it has been shown by Liebig, that it is from the atmosphere that plants derive all their carbon, in the shape of carbonic acid; and from the above table, (which is mostly from Liebig,) it will at once be perceived that carbonic acid has only to part with one equivalent of oxygen and take one of water, and we have the identical acid, which, uniting with an alkali furnished by the soil, forms the acid salt found in that pest of the farmer, sorrel.

That the above is a correct account of the *modus operandi* of nature, can hardly admit of a doubt; and if so, we must look to physical, not chemical means to rid us of the nuisance.

W. R. P.

Bowling Green, Wood Co., Ohio.

RUST ON WHEAT.

.....

MR. TUCKER.—Having been a subscriber of the Cultivator for many years, and having read the different opinions in regard to rust in wheat, I avail myself of the present opportunity, to offer a few remarks upon that subject.

In the year 1840, I had sown 9 acres of wheat, 4 of it being in an orchard. It grew admirably, very tall and thick, with fine long ears, and was admired by all who saw it. This was within one week of harvest, when there arose a very heavy and thick fog, coming on from the east, with a gentle wind sufficient to waft it along, and continued two days, after which time it cleared off, and to my regret, I discovered my wheat was ruined. But what was my surprise, when I came to harvest that part in the orchard, I found all the wheat under the west side of the apple trees entirely free from rust. That circumstance fully confirms, what has ever been my opinion, that fog is the only true cause of rust. I believe if there was a high, tight board fence erected on the east of the wheat field, it would protect the wheat as broad as the fence is high. Never in my long course of experience, have I known rust without fog. I see by the January number of the Cultivator, that a Tompkins county farmer, who suffered in one piece of wheat so greatly, had another piece a half a mile distant, escaped entirely. But he says it was sheltered on two sides by a wood, which goes a great way to corroborate my statement.

RICHMOND.

.....

We have received a communication from Mr. WM. BYERS, Brook Hall, Va., giving his views on the subject of rust and smut in wheat. He supposes that rust is most likely to take place in those seasons which induce a vigorous growth of wheat in the latter part of winter or early spring. In consequence of this early or premature growth, he supposes the energies of the roots become exhausted about the commencement of the filling of the grain, and that the grain fails for want of support. Under these circumstances, he thinks, if wet weather ensues, the roots decay and "the black rust or smut is produced;" and if the weather is dry, "the root fails, and the red rust is very apt to make its appearance; or if not, the grain is small and the crop light." If, however, according to his theory, "a dry spell of weather takes place after the early growth, and

* Water is composed of 1 eq. of oxygen and 1 of hydrogen

continues till sixty or seventy days before harvest," and should the weather then be seasonable, a second growth takes place, with a new set of roots that may sustain and mature the crop. As an artificial remedy against rust, he would therefore endeavor to induce this "second growth" of roots by which he believes the crop is sustained to maturity. And in this view he recommends pasturing the grain which exhibits this early, and, as he considers, premature growth, with light stock; such as calves, colts, sheep, &c. This, he thinks, "will aid the owner, by the support of his stock, and will be tolerably certain to make a good crop of wheat." If pastured, he recommends grazing it pretty closely, "until about seventy-five or ninety days before the usual time of harvesting." These opinions, he states, are the result of many years' observation.

In relation to the above ideas of Mr. BYERS, we remark that some of them are entirely new to us, and though we would by no means be hasty in pronouncing an opinion, we must acknowledge that at present, we are unable to reconcile his theory with what is generally admitted as fact, in regard to rust. The advantages of grazing wheat as mentioned, under certain circumstances, we have often seen. Mr. BYERS relates several cases of a wheat crop having been preserved from the Hessian fly by grazing, which are worthy attention. He thinks that close grazing destroys the fly, or prevents it from obtaining a lodgment in the wheat; a conclusion which seems to be justified by the instances related from his own experience.

LINIMENT.

MR. EDITOR—I send you a recipe for a liniment, which has been long in use, and has been found highly efficacious in all cases of sprains, bruises, and wounds, external or internal, on man or beast. It has been used with great success in severe cases of rheumatism, often effecting a positive cure, and no farmer should be without it who has not something better to substitute in its place.

One-half oz. spirits hartshorn;
Two oz. camphor gum;
One gill spirits turpentine;
One-half pint sweet oil;
One pint alcohol.

Shake it well together, and apply, rubbing it in smartly with the hand.

JUNIAS.

MODES OF FARMING.

MR. TUCKER.—The experimental number of the Cultivator was sent me by some unknown friend. I became interested in the publication, and have been a constant reader of it from that day to the present. It is not my object to write its history—that is extensively known; or to offer a mere complimentary remark. The Cultivator deserves, and it has long received, more substantial nutriment.

That, among the great number of persons engaged in agricultural pursuits, there should exist differences of opinion respecting the best modes of cultivation, is not surprising. A free interchange of opinions—a willingness to impart, and an equal willingness to receive light—a yielding of prejudices, and a general desire to make substantial improvements in this first and noblest pursuit of man, would however do much towards harmonizing those differences. Perhaps much of this difference may arise from the variety of *manner* in which the same general operation is performed. To illustrate this remark, I will suppose a farmer preparing to plant his corn by manuring in the hill. He lays out his ground in shallow furrows, and deposits in large quantities, and of a coarse and unsuitable quality, the manure, which, at planting, is superficially covered; and the result is a total failure, or at least a light crop. Of course he will have nothing to do with *that* method of applying manure to the corn crop. I will suppose again. Another farmer applies his coarse manure

broadcast, mixing it thoroughly with the soil; then furrows to the depth of six inches, in which he distributes about six wagon loads of well rotted, or hog manure to the acre. At planting care is taken that no part of it remains uncovered; thus preventing in a good degree the effects of drouth. Corn thus planted will start off luxuriantly, and usually hold out to the end. The writer has repeatedly received the benefit of such a course. But not to enlarge, for I am aware that your columns are not required to go begging for matter to fill them; and that short articles are more likely to be read than long ones, and are perhaps equally useful.

In conclusion, let the sentiment be uttered, believed, and adopted everywhere, that the farmer's wealth and happiness does not consist so much in his *broad* as in his *well-cultivated* acres.

"A little land, well tilled—
A little house, well filled."

G. BUTLER.

Clinton, N. Y., Dec. 25th, 1845.

SAXON AND SPANISH SHEEP.

THE idea seems to be held by some, that the Spanish, or what are commonly called Merino sheep, cannot by possibility be made to produce as fine wool as the Saxon. But none will deny that the Saxon were originally derived from the Spanish. What, then, has produced the superior fineness of wool in the former? Obviously, CULTIVATION. And are the Saxons the only people on the face of the earth who possess the ability to effect such a result? Have they such superior skill in the science of breeding and management of animals? Verily, I had supposed that the "self-esteem," (if nothing else,) of the Anglo Saxons would not permit them to admit this.

JABAL.

SIGNS OF RAIN.

SOME people desire a weather calendar in their almanacs, fully believing, no doubt, that the weather may be foretold by the phases of the moon. As far better, however, than any prognostications of such a kind, we copy the following, said to have been composed by Dr. JENNER, as an excuse for not accepting the invitation of a friend to make an excursion with him:

- 1 The hollow winds begin to blow,
- 2 The clouds look black, the grass is low;
- 3 The soot falls down, the spaniels sleep,
- 4 And spiders from their cobwebs peep.
- 5 Last night the sun went pale to bed,
- 6 The moon in halos hid her head;
- 7 The boding shepherd heaves a sigh,
- 8 For, see a rainbow spans the sky.
- 9 The walls are damp, the ditches smell,
- 10 Clos'd is the pink-ey'd pimpernell.
- 11 Hark! how the chairs and tables crack,
- 12 Old Betty's joints are on the rack;
- 13 Loud quack the ducks, the peacocks cry;
- 14 The distant hills are looking nigh.
- 15 How restless are the snorting swine,
- 16 The busy flies disturb the kine;
- 17 Low o'er the grass the swallow wings;
- 18 The cricket, too, how sharp he sings;
- 19 Puss on the hearth with velvet paws,
- 20 Sits, wiping o'er her whisker'd jaws.
- 21 Through the clear stream the fishes rise
- 22 And nimbly catch th' incautious flies;
- 23 The glow-worms, numerous and bright
- 24 Illum'd the dewy dell last night.
- 25 At dusk the squalid toad was seen,
- 26 Hopping and crawling o'er the green;
- 27 The whirling wind the dust obeys,
- 28 And in the rapid eddy plays;
- 29 The frog has chang'd his yellow vest,
- 30 And in a russet coat is drest.
- 31 Though June, the air is cold and still;
- 32 The mellow blackbird's voice is shrill.
- 33 My dog, so alter'd in his taste,
- 34 Quits mutton bones, on grass to feast;
- 35 And see, yon rooks, how odd their flight,
- 36 They imitate the gliding kite,
- 37 And seem precipitate to fall—
- 38 As if they felt the piercing ball.
- 39 'Twill surely rain, I see with sorrow;
- 40 Our jaunt must be put off to-morrow.

INQUIRIES.

.....

DISEASE IN FOWLS.—"A Subscriber"—(St. John, N. B.) The disease you describe, is no doubt what is called roup, or "sore head." As soon as a fowl is discovered to have it, it should be separated from the rest of the flock; the head should be first washed with castile soap suds, and afterwards with a solution of acetate (sugar) of lead. If the fowl is badly attacked before anything is done for it, the surest and best remedy is to cut off the head.

EGG PLANT.—JUNIOR.—Cut the bulb in slices a third of an inch thick; take off the outside skin, pack up the slices one above another, having first scattered fine salt between each layer—put a light weight on the top, and let the whole stand for eight to twelve hours. Then broil the slices on a gridiron, and butter, salt and pepper them to suit the taste. It is a delicious dish.

BEARDED AND BALD WHEAT.—A. R., (Middlefield, N. Y.)—We believe it is true that bald wheat is generally less affected with what you call the weevil than bearded.

POTATOES FOR "BLACK SOIL."—A. R.—If the location is subject to frost, get an early variety—choose hardy kinds at all events.

CELLAR FOR ROOTS.—A. R.—Roots are injured by wilting. The cellar should be as cool as possible without freezing.

CURING BUTTER.—A. R.—We can give no better information on this subject than you will find in our February No., page 49.

SETTING FENCE POSTS.—A. R.—See the communication of D. P., in the February No., page 46, current volume.

SOWING GRASS SEED.—"A Subscriber"—(Cornwell, N. Y.)—We should prefer the latter part of August for sowing grass seed. We would not "plow in the seed." A light harrow will bury it quite deep enough. You mention no grass but Timothy. If that is the only kind to be sown, we should sow half a bushel of seed per acre. As to clover, it will do sown at that season of the year, if the land is quite dry and not likely to be thrown up by frost. If, on the contrary it is inclining to be wet and cold, clover will not do very well, sown at any time, but sowing in March, on a light snow, would be preferable,—six to eight pounds of seed per acre. (See vol. 1, N. S., p. 271—vol. 2, p. 187—current vol. p. 94.)

BREEDING MARES.—R. B. (Watertown N. Y.)—Breeding mares may be kept at moderate and light work for the first five months of gestation. They should not be "turned into the yard to pick with the cattle," nor should they be confined wholly in the stable. They should be allowed an open shed or yard, where they can do as they like, undisturbed. If they are expected to foal before going to grass, they should have plenty of room with litter, and must not be tied. They should have good sweet hay, free from must or dust; or they may be fed with chopped hay and good straw, mixed with shorts, and a little corn and cob or oat meal. It is best not to grain them too highly; carrots or potatoes may be beneficially given in small quantities—say six or eight quarts per day. We should be glad to receive, from some experienced horse-breeder, an article on the best management of young horse stock, from their birth till they are broken and fit for labor. The kind of shelter and description of food best adapted to make the best and most serviceable horses, should be stated.

MULTICOLE RYE.—SPURRY.—G. N., (Hobart N. Y.)—We do not remember to have seen any particular results in regard to the culture of this kind of grain, and cannot refer to any account giving the amount produced in this country, from a given quantity of ground. It has the reputation of being very productive in Europe. Spurry is described by Johnson (Farmers' Encyclopedia) as belonging to a genus of herbaceous annual or perennial plants. There are four species, the most common of which is the rough-seeded corn spurry, an

annual. This is a common weed on sandy soil in some parts of Scotland. It is devoured greedily by cattle and sheep, and is thought very valuable food for them. A large smooth-seeded variety is cultivated in Flanders. Thaeer thinks it the most "nourishing in proportion to its bulk of all forage, and gives the best flavored milk and butter."

A. D. C., (Herriotsville, Pa.) asks, 1st. "What kind of manure is best to apply to the corn crop in our creek bottoms, where barn-yard manures cannot be had? Soil, heavy loam." [Straw, leaves and turf from the forest, and clover together with plaster and lime, if the latter are found to operate well on that soil.]

2d. "Should lime be mixed with barn-yard manures?" No, it disengages the ammonia, which will escape unless kept down by a covering of vegetable matter.]

3d. "Could tares or millet be profitably cultivated here?" [It is very probable they could—try them.]

4th. "What is the difference between the "Paular" Merino and the common Merino?" [We don't know what kind of Merinos you call "common." Compared with other varieties of Merino, Mr. Youatt says the Paulars "have a more evident enlargement behind the ears, and a greater degree of throatiness, and their lambs have a coarse hairy appearance, which is succeeded by excellent wool.]

"STONY LAND,"—LIME.—(J. T. R. Kingwood, N. J.)—Stones in land operate as a drainage, to some extent, and attract heat. In some cases they may favor fertility from both those causes. "Sandy land" usually contains but a small portion of lime. To ascertain whether the stones you mention have "lime in them," break them, and apply a few drops of muriatic or nitric acid. If an effervescence is produced, there is lime.

"IS IT BENEFICIAL TO CORN TO BREAK THE ROOTS."—A. M. D., (Green Co. Tenn.)—We think not. It is beneficial to stir the ground well, but this should be done mostly in advance of the extension of the corn-roots. As the plant increases in size, we should not work so near the stalks with an implement that runs deep. See an article on the "culture of Indian Corn," in the April No.

ORIGIN AND GROWTH OF FUNGI

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The common theory is that fungi, and parasitic plants spring from seeds or sporules, which vegetate on bodies that are adapted to their growth. A writer in the *Gardener's Chronicle*, takes a different view of the matter. It reasons thus:—

"In the mineral kingdom we find that metals in crystalizing assume frequently an arborescent form. The same thing may be observed in water crystalizing into frost, on the panes of windows. When a small quantity of paste is allowed to stand for a few days till it begins to undergo decomposition, it becomes covered with a multitude of white fibres or threads shooting upwards into the air, having all the appearance of a vegetable production."

He then goes on to argue that this vegetable-like substance grows up in paste, "even when excluded from the direct action of the atmosphere," although "the previous process of boiling and preparing the paste was sufficient to destroy any ordinary power of germination which a seed or sporule in it might possess." In consideration of these circumstances, therefore, the writer suggests that fungi may originate in accordance with a law, which, when organized bodies cease to exist in one form are by certain influences impelled into other forms. To use his own language—"it would appear, that whenever a plant becomes diseased, or its juices unnaturally expelled by atmospheric or other causes, the law now indicated might send up part of these exudations in a shape resembling fungi, and that the new vegetable thus produced, appearing almost at the same instant with the disease which gave birth to it, might, by some, be considered as a new being arising from a seed or sporule, instead of its being merely an extension of the existing vegetable in a new form."

CONDENSED CORRESPONDENCE.

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FARMING IN OHIO.

A subscriber at Williamsfield, Ashtabula county, Ohio, gives us an account of the farm of J. KENNEDY, of Wayne. Mr. K. is said to be a Scotchman, and is now settled on a farm of one hundred and seventy acres, improved as a dairy farm.

"In company with two friends, I called on Mr. K. on a fine morning some two weeks since, and found him with his sons clearing out his sugar bush, (as we term a collection of maple trees,) from which he manufactured nearly one thousand pounds of sugar the past season. With a true Highland welcome, Mr. K. met us, and took us over his grounds, showing us his flocks of sheep, mostly Merinos, of good size, and in fine condition; among them he has some half dozen South Downs, purchased from the Germans at Economy, Pa. We visited the barn and sheds, and saw the sheep quarters, which are very convenient, and show Mr. K.'s regard for these valuable animals. We looked into his shop for all work, where his boys find plenty to do on stormy days. He has, what every farmer should have, a set of carpenter's tools, but as the carpenters and wheelwrights live so near, many seem to think they do not need them. The corn house and piggery were next visited, which are kept very clean.

Mr. K. takes great pleasure in domesticating his stock, while most sheep, pigs, and cattle, run at the presence of their master, his wait his accustomed recognition, and express their grateful sense of their master's regard. Although it was winter, a time for broken fences, and such like marks of neglect, Mr. K.'s garden was so neat and free from these incumbrances that it was a pleasure to visit it.

His fruit trees are well cared for, being often cleansed in the summer season with soap-suds. One of my friends noticing the polished bark of an English cherry tree, asked me if that was its natural color? I replied yes; brought out with good care. We passed through a meadow which a few years since abounded with stumps. Mr. K. being a great enemy of these, has cleared the field of them. His orchard, too, is in good keeping with the other grounds—not a limb, broken rail, or any such thing to mar the beauty of its clean sod.

On entering the house, we found Mr. K. provided with abundant resources for his leisure hours, in his books and objects of natural history. Here, with his family, he passes the winter evenings, too frequently passed by the younger members of other families at the store, or other places of resort. We left Mr. K. highly gratified with our visit, wishing that we might see many following the good example he sets them."

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CIDER MILLS AND CIDER.

A correspondent of Erie county, Ohio, says—"I should be glad to see in the columns of the Cultivator a plan and description of a cider-mill, considered by you to be best adapted for the purpose; likewise the best method to pursue in making cider, so that it will retain its flavor for years, and also what kind of apples are generally considered to be the best for making cider. The mills in use about here are composed of two or three wooden nuts, which grind fruit very imperfectly, and the cider generally in the course of a few weeks turns hard, and becomes unpalatable."

We should be glad to receive communications in relation to the above. In the meantime would refer to our volume for 1844, page 302, for a mode of manufacturing good cider.

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HEAVES IN HORSES.

A correspondent says, after trying various modes, he has found the following the best treatment for horses having the heaves, viz:—To feed no hay, but plenty of bright, whole (or uncut) straw, with all the oats they would eat, (the latter soaked in cold water three or four hours,) with a pint of oil-meal [flax seed] daily. On this feed they have worked well, and were troubled but little with the disease."

THE SEASON IN ALABAMA.

EXTRACT from a letter written by A. McDONALD, Esq., Ala, dated April 24th, last.

"Thus far the spring cannot be said to be favorable in this section. The large quantity of rain that has fallen during the present month, followed by a continuation of cold weather, has prevented the cotton from coming up well. Upon the whole the stand is a very bad one. Indeed the month of April is a complete antipode to April of 1845; for while we had no rain last year during that month, we have the present year been literally drowned. Either extreme is unfortunate for the farmer. Vegetation is some 10 days later the present than last year. We had green peas on our table last year on the 20th of March; this year on the 1st April. It is however too early to begin to predict as to the crop of 1846, only so far as it is always known that the industrious, prudent, and intelligent farmer will always succeed."

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THE SEASON IN MISSISSIPPI.

Extract from a letter written by A. M. MAYO, of Richland, Holmes county, Mississippi, dated April 23:—We have now radishes, mustard, onions, peas, &c., for our table, and as for roses we have only 15 varieties, the greater part in full bloom. The jasmine and woodbine look lovely."

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SIDE HILL DITCHING.

A "DELAWARE SUBSCRIBER" wishes some further explanations respecting the level system of ditching or plowing, as practised on the plantation of Captain Eggleston, of Mississippi. He says—"I wish to understand how the rows of corn can be parallel when following the undulations of hill-sides, where the slope is irregular. Again, when you come to the fence, at the head or at the foot of a field, there must be many broken rows. Having on my farm several side-hills subject to be washed, I have for some years adopted a plan of ditching somewhat similar to that of Capt. E.; but owing to the defect of parallelism of the ditches, I make my corn rows straight and parallel to one of the fences. This mode, although it answers a good purpose, requires lifting the cultivator over the ditches wherever they cross the rows. It also requires the clearing of the ditches every time, after the corn is worked." We should feel obliged for any information in reference to this subject.

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PRESERVATION OF POTATOES.

A correspondent at New-York, who signs "Germanicus," has been so kind as to forward us the following extract, which he translated from a German publication, on the subject of the potato disease.

"Take 3 large tubs, place them near to each other, and fill them with cold water. In the first tub leave the water pure. In the second put one lb. of chloride of lime to each 12 to 13 galls. of water, and in the 3d one lb. of soda to each 12 to 13 galls. of water. Then wash the potatoes perfectly clean (the diseased and sound ones together) in the first tub; then put them for one half hour, in the 2d tub, in which is the dissolved chloride of lime; from that, put them in the 3d tub, in which is the solution of soda; where, after leaving them 20 minutes, they must be taken out, and washed in fresh cold water, and then dried in the air."

In reference to the above, our correspondent observes:

"Although I am well aware that for a farmer who cultivates large quantities of potatoes, this process will be hardly possible; yet by them it can also be employed for the seed potatoes, as they are perfectly safe, so that even where the potatoes, so prepared, are put in the same cellar with other diseased potatoes, they will not rot, and it would also be for the poorer classes who cultivate enough only for their own use."

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MUCK AS A FERTILIZER.

A correspondent at Castleton, Vt., says:—"For the last ten years I have had some experience with swamp muck as a fertilizer. For meadows, used in the form

of a top dressing, it is almost valueless as a manure in its crude state, but a good and enduring manure when combined with certain salts. It is the cheapest material that a farmer can make manure from when he has it on his own farm. By a top dressing in the crude state and one dollar's worth of salts to the acre, (?) I have made land yield two tons of hay to the acre, that did not yield five hundred before. One dressing of the muck will last several years; the other articles it wants yearly. I use it in the barn-yard as an underlay to catch the salts of yard manure, which I use for hoed crops." What kind of "salts" are used, and how?—ED.

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AGRICULTURE IN GEORGIA.

Extract from a letter of A. E. ERNEST, of Bibb Co., Georgia:—

TURNIPS.—"For six or seven years I have cultivated turneps for stock and for market, and they are, we think, a very profitable crop, if cultivated in a proper manner. Last Monday I sent a turnep to Macon, that when first pulled up and washed, weighed 18½ lbs., and the season was bad for turneps and everything else; and besides that, I commenced pulling up the largest and sending them to market as soon as they were large enough. Had it not been for this, it is likely there would have been larger ones in the patch. The turnep crop can no doubt be made as profitable in Georgia as it can anywhere. We are not under the necessity here of housing our turneps in the winter; we leave them in the patch until we want them for use, and some of the varieties grow almost till spring."

SILK.—"For some years past I have been cultivating silk, and notwithstanding I have carried on the business under almost every conceivable disadvantage, yet I have made the business profitable—perhaps more so than any thing I have done. This, I think, is saying a good deal in favor of the business, and it is certainly true to the letter; and my prospects in the business are now extremely flattering, and in the course of the present year I may be able to give you something on the subject beneficial to some of your Georgia readers."

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PINE STUMPS.

Mr. SAMUEL WARRING, of Morrisdale, Pa., states that he is in the habit of burning out pine stumps. He digs the earth away from the roots, taking care to go as deep as the plow will reach. After the roots were made bare, he made a log-heap around the stump, and he says, "if the weather is suitable, the fire makes clear work of it in a few hours." He states that he last year cleared a field in this way, which was thickly studded with pine stumps and old pine trees. He did the work by "odd jobs," as his labors could be spared from other farm work. The field was so clear by the 10th of September, that its contrast with other lots induced the inquiry how long it had been cleared. He thinks the mode a good one for those who cannot conveniently obtain machinery.

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PREJUDICE AND ITS CONSEQUENCE.

Mr. GEO. ADAMS, of Attica, Wyoming Co., N. Y., gives the following remarks in reference to agriculture in that section:—

It is deplorable to see men who consider themselves first rate farmers, so blinded to their own interest and prosperity by prejudice, and a superstitious fondness for their old notions as to ridicule those who are trying to make improvements. I hardly know how to get along with such men, but have come to the conclusion that the best course to do away prejudice and introduce a better system of farming is to push forward and make all the improvements we can, and show them by our example that we can make greater crops and more money by our improved system of husbandry than they can by their skinning system; taking crop after crop without returning anything to the land to keep up its fertility. It may be said that I am judging my brother farmers too hard, but by their works they must be judged. I can refer to a number of farmers with whom I am well acquainted, who boast of their skill

in farming, that have cropped certain portions of their farms without returning anything near an equivalent for what they have taken from them, till the crops will hardly pay the expense of making them. There are a good many farms in this section, which, when new, would have produced fifty bushels of corn or twenty of wheat per acre, that are so reduced by severe cropping that the average yield is not more than twenty bushels of corn, and about ten of wheat. Now my own observation has convinced me that the manure wasted on these farms by laying exposed to the weather and washed by rains and snows, and carried off through gutters into low, wet places, and the highways, would, if properly saved and judiciously applied, be sufficient to manure a considerable portion of them, and yet these men complain that they have not the means of manuring their farms."

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BLIND TEETH IN HORSES.

WM. LITTLE, Poland, O., relates a case of a stallion of his having gone entirely blind without any apparent cause. A friend who examined him, found "blind or wolf teeth," which were immediately knocked out, and the horse soon recovered his sight.

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TO CURE GALLS IN HORSES.

W. B. HAMILTON, of Philadelphia, says—"Some twenty-five years since, an old stage driver told me the secret why, to the astonishment and envy of every other Jehu, his horses were never galled. Myself and friends have tested it again and again. Here it is. Gather a quantity of smart weed (*aqua piper*) which grows in almost every wet spot about the stable; bruise it well, and put it in an iron vessel, in a corner of the stable; cover it up with chamberley and wash the galled places whenever the horse enters or leaves the stable, or oftener, if occasion offers, and then the cure is almost immediate. If badly galled under the harness or collar, bruise well some of the leaves and bind on the spot. To prevent galling, let the shoulders and parts exposed, be washed daily with the infusion, and the animal will not gall, work him as hard as you will, provided the harness be good."

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SALTPETRE FOR MEAT.

CHAS. BABCOCK, of Guilford, Ct., writes, in reference to a communication on curing meat, by N. DARTING in our Jan. number:—"I find by consulting medical writers that saltpetre is a deadly poison." In support of this he cites the following. "This powerful salt, when inadvertently taken in too large doses, is one of the most fatal poisons."—(Thatcher's Dispensatory.) "In large doses, such as an ounce taken at one time, it produces the most dreadful symptoms—constant vomiting, purging, (the discharges mixed with blood) convulsions and death." (Cox's Dispensatory, p. 445.) "I have found by a series of experiments for many years, that saltpetre has the most certain and deadly effect upon the human system of any thing that is used in medicine." (Dr. Thomson's New Guide to Health.)

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MARTHA'S VINEYARD.

ALLEN COFFIN, Esq., of Edgartown, writes in relation to the state of agriculture and horticulture on this island:—"If some of our farmers would take the Albany Cultivator, or some other interesting horticultural publication, and follow the directions given, I doubt not it would be better to them than \$100 per year. The skinning system has been practised here to perfection. It is a true saying, 'starve the land, and the land will starve you. Feed the land, and the land will feed you.' Our people begin to feel the importance of manuring their land, and are beginning to set out fruit trees. I began to set out trees 13 or 14 years ago, and was laughed at, but they now know that with judicious culture, we can raise good fruit. Last season, I think there was nearly as much money laid out for fruit trees, as there has been since the island was first inhabited by the white man.

Of the advantage of sea weed for trees, Mr. Coffin says—"I have always kept a good coat of sea weed around my trees which keeps the frost from injuring

the roots which run nearest the surface of the ground. It kills nearly all the weeds, keeps the ground loose, and as it decays, enriches the land. The roots of my trees have completely intersected each other, and many of the roots were near the top of the ground, so that it would, in my opinion, be very injurious to plow amongst them. Once a year I run a spade two or three inches under the surface and turn it over, so that the grass and weeds serve to enrich the land."

IMPOSITION.

A. D. COULTER, Herriotsville, Pa. after mentioning a case of one of his friends having been imposed on in what was called a Cotswold ram, says—"Our farmers here are often imposed upon in cattle and sheep, by designing persons. I have been to see several herds of *Durhams* this winter, but the greater number had no mark by which I could trace any Durham blood in them. This might be easily avoided if the farmers would take a good agricultural paper. For no one can examine the portraits of the noble animals which we find in the *Cultivator*, without being convinced that three-fourths of the cattle purchased by our farmers for *Durhams*, have nothing but the name."

LAYING DOWN GRASS LANDS.

Mr. EDITOR.—As the time has now arrived when something can be learned in farming as well as in every thing else, and it is not considered advisable to follow altogether in the footsteps of our predecessors, I will state that a practice is gaining ground with us of sowing grass seed alone in September and October for meadow. The mode is to prepare the ground exactly as if for wheat, and then after harrowing thoroughly both ways sow the seed; it falls in the small furrows made by the harrow teeth and the roller following covers it sufficiently deep. The advantage is a hay crop instead of a crop of wheat, the hay being worth more than the wheat, even supposing the wheat to be a tolerably fair crop, which has not been the case of late years with us. Another advantage is, that you get rid of an exhausting crop, for I believe that a heavy crop of wheat straw, standing upon the ground and being permitted to ripen its seed, exhausts the soil more than a hay crop would in several years. It is the opinion of some intelligent farmers, that if ground in good heart be laid down to grass without a grain crop, and the after growth be not pastured off or mowed, but permitted to grow, and die, the standard of the soil will not be materially lowered even for a length of time. It is by constant ploughing and sowing and reaping and not making a due return to the soil in the shape of manure and other fertilizing matters, that some of our best land has been reduced from a state of fertility to almost barrenness. The past season has been one of almost unparalleled severity on this Island. The drought which commenced in the beginning of May, and may be said to have lasted till October, together with the ravages of the grub worm, seemed to defy the energy of the farmer, and render futile all attempts to get even a moderate return for his labor. In proof of this, I state my own experience in the cultivation of three acres of potatoes. About one acre was sod, the remainder ground on which cabbages had grown the year before; all ploughed the first week in March, being a deep rich soil, inclining to clay. The drills were opened three feet and a half apart, and the potatoes being cut, bearing not more than three eyes in a piece, were set nine inches apart. The planting was performed between the 20th of March and the 10th of April. The manure a compost of stable, barnyard and hog-pen, about equal parts, and applied at the rate of thirty-five ox-cart loads to the acre in the drills, and in a partial state of fermentation. The potatoes came up and grew finely, but owing to the dry weather the vines were entirely dead by the middle of July, giving a yield of not over seventy five bushels to the acre. The damage done by the grub worm has also been more serious than ever before known, and it is feared may extend to another season, inasmuch as on many fields

they have eaten the roots of the grass entirely off, and of course there will be nothing but what may grow spontaneously another year. In September last, I saw some of our finest grass farms in New-Durp which looked as if a fire had passed over them; nothing visible but the dead stubble, and here and there a green stem of a daisy, which the grub in his fastidiousness had left standing in bold relief to the destruction around.

On many of these farms the plan has been adopted of turning under the grass stubble shortly after harvest, giving a dressing of short fermented manure and seeding anew with timothy at the rate of half a bushel or three pecks to the acre, which, by-the-by, I conceive to be sufficient, although Mr. Pell uses more. On land thus treated the seed came up well and looked promisingly in the fall, and I anticipate a good yield next harvest unless the young grass roots should suffer for want of rain in April and May, which is a critical time for them.

Having seen in your paper for January a singular cause of death of a cow, I am induced to give an account of a cow of mine which died under circumstances which lead me to believe that death was produced from the same cause. This cow had failed getting with calf for the last two years, although constantly in company with a bull. Nothing was observed indicating a loss of health, except a redness about the outer rim of the eye, which made its appearance about three months before her death, until going into her pen on the morning before she died, she was found to be very much swollen, her stomach distended, and with symptoms of inflammation. She died next day. Upon examination the uterus was found to contain a large quantity of decomposed matter supposed by those who saw it to be the remains of a calf. She fed regularly and gave milk up to the time of her death.

G.
Southfield, Richmond County.

INDIAN CORN.

IN regard to the culture of this article by the Iroquois, or Six Nations, there are some interesting observations in Mr. Schoolcraft's Report. "It is," he says, "conceded on all hands that this is a tropical, or at least, a southern plant." He remarks that it was not known in Europe before the discovery of this country, and that we learned the mode of cultivation from the Indians, and not they from us. "It was," he says, "cultivated by the Iroquois in large fields, and gave them a title to agriculturists." It was undoubtedly highly prized as an essential article of their support. Mr. Schoolcraft states that the warriors of the Six Nations were in the habit of undertaking journeys of thousands of miles in extent, carrying no other food than a little meal from parched and pounded corn, relying on the forest for meat. "One table-spoonful of this meal," says Mr. S. "mixed with a little sugar and water, will sustain a warrior for twenty-four hours, without meat." What grain would do more? The art of converting the sap of the maple into sugar, it seems, was known to the Indians before their acquaintance with the whites.

Mr. Schoolcraft states also that the Iroquois cultivated an indigenous kind of bean, which he thinks may have been "the same called *frijoles* by the early Spaniards." They had likewise, according to Mr. S., "some species of the cucurbitæ" pumpkins and squashes.

MANURE FROM BATS.

A writer in the *Gardener's Chronicle*, states that in the churches belonging to the "ruined missions," near San Antonio, Texas, numbers of small bats build their nests. He states that in one of those churches at La Concepcion, which he visited in 1843 and 1844, there were countless numbers of nests, and that he "observed a large quantity of bat's dung, covering the whole of the bottom of the church, in some places a foot to a foot and a half thick, and the stench arising therefrom, intolerable." He adds, "were manure necessary for the lands on the San Antonio, this bat guano might be of service."



ALBANY, JUNE, 1846.

NEW MAGAZINE.

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The rapid strides which have been made within the few last years, in the advance of a taste for rural improvement in all its branches, seem to demand a periodical in which can be concentrated an account of its progress, together with such directions as may guide, in some degree, the practice of the large and increasing number engaged in rural pursuits, either as a matter of taste or profit. The publisher of "The Cultivator" believes he has succeeded in making such arrangements as will supply this desideratum; and he has the pleasure of announcing that he has secured the services of A. J. DOWNING, Esq., whose writings on Landscape Gardening, Rural Architecture, Pomology, and Horticulture generally, have given him a rank among the first writers of the age, on these subjects, as Editor of a new magazine, the publication of which will be commenced on the first of next month, under the title of

THE HORTICULTURIST,

AND

JOURNAL OF RURAL ART AND RURAL TASTE.

BY A. J. DOWNING,

Author of "Landscape Gardening," "Designs for Cottage Residences," "Fruits and Fruit Trees of America," etc. etc.

THIS magazine will be devoted mainly to Horticulture. Gardening, in a thoroughly *practical* as well as scientific sense, will be its leading object; and it is hoped, through its columns, not only to render simple and easy to the novice, the practical care of all that belongs to the garden, but also to disseminate in all parts of the country, a knowledge of all new and important discoveries in Horticulture.

POMOLOGY—the description and cultivation of Fruits and Fruit Trees, in which we are already more interested than any other people—will be a topic continually discussed. Essays, hints, and designs on Ornamental or

LANDSCAPE GARDENING,

Will be frequently presented to its readers. The great interest manifested at this moment in many of the states, in the embellishment of grounds and the erection of ornamental dwellings, points out the necessity of some periodical in which these subjects shall be more completely illustrated from time to time. Rural Architecture,—so closely allied in its nature,—will therefore be embodied in the plan of this work, and,

DESIGNS FOR RURAL COTTAGES AND VILLAS,

Farm-Houses, Gates, Lodges, Hot-Houses, Vineries, &c. &c., will very frequently be introduced into its pages.

Numerous correspondents, from among those of ability in the country, will place before its readers a variety of articles on all the most interesting subjects within its scope. A summary of Horticultural news from the leading horticultural journals in England, France, and Germany, will be given monthly, as well as notices of all the more important proceedings of the principal Horticultural Societies in this country.

In short, this periodical may be considered a continuation of the various works on rural subjects, by its editor, which have already been so favorably received by

the public. It is now his object to assist, as far as possible, in giving additional impulse to the progress of Horticulture and the tasteful in Rural Life, subjects which are now so largely occupying all those interested in country life.

THE HORTICULTURIST will be issued on the first of each month, (commencing July, 1846,) in numbers of 48 pages, printed on fine paper, and embellished with numerous engravings, illustrative of the various subjects to which it is devoted, making an annual volume of about 600 pages, at \$3.00 a year, payable in advance.

Published by LUTHER TUCKER, at the office of "THE CULTIVATOR," Albany, N. Y., to whom all business letters should be addressed. Letters and Communications for the Editor, should be addressed to A. J. DOWNING, Ed. Horticulturist, Newburgh, N. Y.

Albany, May, 1846.

TO CORRESPONDENTS.

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COMMUNICATIONS have been received during the past month, from Alex. McDonald, M. W. Phillips, A Subscriber, Practice with Science. D. H. Wright, E. W. Hale, A Young Farmer, Jubal, James Morrison.

S. W., Morrisdale, and G. W. C., Mt. Lion.—The seeds requested were forwarded as desired.

P. D. C., Pleasant Plains.—Shall be glad to receive an account of your experiments with lime and muck.

BOOKS, PAMPHLETS, &c., received as follows:

The Cultivation of the Grape, and Manufacture of Wine. Also, Character and Habits of the Strawberry Plant, by N. Longworth, Cincinnati; 20 pages, octavo.

American Journal of Insanity, edited by the officers of the New-York State Lunatic Asylum, for April, 1846. Utica, Bennet, Backus & Hawley—quarterly, 95 pages,—\$1 a year.

Capital Punishment, a violation of the principles of Divine Government. By Milo D. Coddington, Rochester,—44 pages.

Speech of Hon. T. H. Bayly of Virginia, on the Harbors Bill and Corn Trade of England, in the House of Representatives, March 11, 1846.

Cortland Co. Whig, containing Address of Mr. Amos Rice. From P. Barber, Esq.

Treatise on the Potato Disease, by Thos. Cross.

The American Journal of Science and Arts, for May; New-Haven, Ct. By Prof. Silliman, Jr., and James D. Dana. Published every second month—\$5 a year.

Speech of the Hon. R. D. Owen, on the bill to establish the Smithsonian Institution.

Premium List of Jefferson Co. Ag. Society, from Maj. E. Kirby.

Premium List of Madison Co. Ag. Society.

The Diploma of the New-Haven Co. (Ct.) Ag. Society, from Levi Durant.

The Phonographic Class-Book, Reader, &c., from Andrews and Boyle, publishers, Boston.

MONTHLY NOTICES.

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✂ We invite the attention of those wishing a delightful country residence, to the advertisement for the sale of the farm of the late Dr. SAMUEL AKERLY, on Staten Island. Dr. A. was well known to the readers of the Cultivator, as a most careful and thorough farmer, by his various contributions to its pages under the signatures of "Richmond," and "A Practical Farmer."

IMPORTATION OF SHEEP.—We learn that Mr. S. W. JEWETT, of Weybridge, Vt., has lately imported ten yearling ewes from the Merino flock of the late Lord Western, of Felix Hall, England. The origin of this noted flock was forty ewes selected by Lord W., from five hundred which were presented to King George III, by the Spanish Cortes, about the year 1808. We have frequently seen favorable notices of Lord Western's flock in the English agricultural books and periodicals. The Merinos are said to have been much improved in

his hands—the original fineness of wool having been preserved and considerable added to the weight of the fleece. From a statement published in 1839, it appears that the year previous, 315 breeding ewes of this flock gave an average of 4 lbs. 10 oz., and 122 yearling ewes an average of 6 lbs. 1 oz. of wool per head, “washed clean on the sheep’s back.”

We have not seen Mr. Jewett’s imported sheep, but from the reputation of the flock from which they were taken, we think there is no doubt that they will prove valuable to the country.

Several of the newspapers have mentioned the mysterious disappearance of BENJ. P. JOHNSON, Esq., ex-president of the New-York State Agricultural Society. He left home on business at Newburgh and New-York, about the first of April; but no intelligence has been received concerning him since his arrival at the city of New-York, and but little doubt is now entertained that some fatal catastrophe has befallen him. He had long maintained the character of an upright and honorable man, and had filled with credit to himself and satisfaction to the public, several important situations of trust. There was a report, some time since, that his body had been found in the river at New-York, but such was not the case; and we have great reason to fear, so long a period has now elapsed, that his fate, like that of the late Chancellor Lansing, who was seen in New-York for the last time some years since, will never be disclosed.

APPLES WITHOUT BLOSSOMS.—E. HAXTUN, Esq., member of Assembly from Dutchess county, informed us a short time since that an apple tree was standing on his father’s farm in Beekman, which, without ever having had a blossom on it, produced apples! At the time the other trees in the vicinity of this tree were in blossom, Mr. Haxtun took some twigs from the one we have mentioned, which he has kindly left with us. On examination, we find the petals of the flower only wanting—the fructifying organs, (stamens and pistils,) seem as well developed as in ordinary blossoms. The deficiency spoken of, gives to the tree the appearance of being destitute of blossoms. We have never before known a defect of this kind in an apple tree, though we cannot say that it would necessarily affect the production of fruit. Mr. Haxtun stated that the tree bears quite regularly; that the fruit, which ripens in the fall, is good.

PROPAGATING OYSTERS.—MR. J. D. JONES, of North Carolina, wishes some information in relation to this subject, and to his request we also join our own. Will not some of our friends favor us with an article describing the best mode of producing this animal, which though reckoned low in the scale of *being*, is deservedly ranked high in the scale of *esculents*.

PROSPECTS OF THE WHEAT CROP.—Accounts from nearly all parts of the country represent the wheat crop as very promising. In the best wheat districts of Ohio, Illinois, Wisconsin and Michigan, the only fear in regard to it is said to be its great rankness, in some cases, which may be followed by rust. We have heard of but little injury from the fly, but a letter received from THOS. HANCOCK, dated Burlington, N. J., May 18th, states that considerable danger had been done by the insect in that neighborhood.

“THE LAST OF THE MOHECANS.”—We learn that the horse *Bulrush* or *Chelsea Morgan*, the last of the progeny of the first or “Old Morgan” horse, is dead. This animal which has several times been mentioned in the *Cultivator*, belonged to Mr. FREDERICK A. WIER, of Walpole, N. H., who it will be recollected, has furnished many valuable facts in regard to the origin and history of the Morgan race of horses. The *Chelsea Morgan* was foaled in 1816, consequently was thirty years old at the time of his death. For the benefit of the public we will mention that Mr. Wier has supplied the place of the horse whose death is here mentioned, with one of the Morgan family, called the *Gifford* horse, a son of the celebrated *Woodbury Morgan*. We are informed that persons who recollect the old Morgan horse, (particularly Justin Morgan Esq. of

Woodstock, Vt.) consider the *Gifford* horse to resemble him more closely in shape and character than any of that stock they have seen. The last named horse has stood for the last fifteen years mostly in Bethel, Vt., in which vicinity, and in all places where known, his progeny are held in high repute as roadsters.

PROFITABLE HENS.—Charles W. Greene, of Roxbury, Mass., from 45 hens, had 41 dozen eggs, in January last, and 26½ dozen the first 16 days of February. He keeps his hens warm in a well lighted house, facing the south, the front being made of glass, like a green-house. The eggs sold for 30 to 38 cents per dozen.

BLACK AND WHITE PAINTS.—Tools, wagons, &c. painted black, absorb the sun’s rays, become hot, and warp and crack. Painted white they reflect, and do not absorb the rays, and consequently do not become hot, and they remain uninjured by warping. Hence all wooden articles should be painted of some light color.

TO STOP A RUNAWAY HORSE.—If on horseback, throw your bridle reins round his neck if possible, to choke him, or choke him with your arms, and he must stop. If in a wagon, and running away is feared, provide a strong cord with a sliding-noose placed round his neck; if he runs, draw the cord forcibly; he is choked and stops instantly.

POTATOES.—“The long red wants a long summer, and when it is fully ripe it takes the lead among good potatoes.”—*Mass. Ploughman*.

This agrees with our experience. The potato alluded to is variously named, *La Plata* red, Spanish, or *Merino*, long red, &c. It came to this country some forty years since, from the river *La Plata*, in South America. It is the hardiest potato we ever knew—has the greatest constitutional stamina, and will beat the once boasted *Rohan* in productiveness, as we have several times proved by planting them side by side; giving an equal quantity of ground to each. Animals, from rats to cattle, are more fond of it than of any other kind. Plant it only in warm loamy (not sandy or gravelly) soil, so that it may get *fully ripe*, and from March to July there is no potato superior to it for the table.

MILK OF CARNIVORA.—The French chemist Dumas, has been engaged lately in chemical examinations of the milk of carnivorous animals. He fed dogs wholly on flesh, and on subjecting their milk to analysis, ascertained that no sugar was present, nor could a trace of butyric acid be detected after the dogs had been thus fed for fifteen days. But if the dogs were fed on farinaceous food, sugar as well as butyric acid was found.

PRODUCTIVE COWS.—HENRY CREESY took the first premium of the Essex Co. (Mass.) Ag. Society for a “native” cow, which from the 21st of May to 21st September, gave 4,817 lbs. 4 oz. of milk; 19 lbs. of milk was ascertained by trial to yield on an average one lb. of butter, which makes the milk equivalent to 253 lbs. of butter for the four months. Her keeping is stated to have been grass-fed, with the exception of seven weeks, when she had two quarts of shorts per day.

WM. AVERILL took the second premium at the same time, for a “native” cow which in four months, from 20th May, 1845, gave 4,375 lbs. milk, which milk yielded by actual manufacture, 211 lbs. 2 oz. butter. Her keeping was grass-fed with the addition, during the drouth and shortness of feed, for five or six weeks, of one quart of Indian meal and one quart of rye-meal, mixed together, per day.

GOOD FIGS.

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A correspondent of the English Agricultural Gazette, gives the weight of three pigs of one litter, a cross between sows of the large Tamworth breed, and a boar of Lord Howe’s swell breed. One of them, killed at seven months old, weighed 240 pounds; another killed at eight months, 260 pounds; and a third, fattened by a cottager killed at eight months and a few days old, weighed 376 pounds.

AGRICULTURAL SOCIETIES.

NEW-YORK STATE.—The meeting of the Executive Committee for last month, was held at Auburn, on the 14th. We were unable to be present, but learn that there was a good attendance of the members, and that a spirit was manifested which promises well for the next exhibition. The judges, to award the premiums, were appointed, and the arrangements necessary for the Fair made, so far as they could be at this early day.

MADISON COUNTY.—The Agricultural Society of this county holds its next Fair at the village of Eaton, on the 22d and 23d days of September next. We perceive by their bills, that the Society offers, in premiums, no less than *thirty-six* copies of the Cultivator for 1847.

JEFFERSON COUNTY.—The Fair of the Jefferson Co. Ag. Society, is also to be holden on the 22d and 23d of September. Address to be delivered by J. B. NOTT. This society offers *ten* volumes of the Cultivator in premiums.

DUTCHESS CO.—Fair to be held at Washington Hollow, 7th and 8th of October.

MONTGOMERY CO.—Fair to be held at Amsterdam in October.

LITCHFIELD CO. CT.—Exhibition at Litchfield, September 23, and 24.

WINDSOR COUNTY, VT.—First Fair to be held at Woodstock, Oct. 1.

NEW PUBLICATIONS.

TRANSACTIONS OF THE N. Y. STATE AGRICULTURAL SOCIETY FOR 1845.—This volume, being the fifth issued by the Society, contains an unusual number of valuable articles. Such in particular are the Prize Essays on Science and Agriculture, Irrigation, Culture and Manufacture of Silk, Rot in Potatoes; also the Report of the Committee on Farms, with statements of the Competitors, an article on Farm-Houses, the Agricultural Statistics of the State, and an Essay on the Potato Disease in Scotland, by JOHN P. NORTON. Two of these articles,—viz: the one on Farm Houses, by A. J. DOWNING, and the summary of the statistics, by S. S. RANDALL,—we copy into this number, believing that the readers of the Cultivator will be pleased to peruse them.

AMERICAN JOURNAL OF SCIENCE AND ART.—We have received the number of this excellent periodical for May. It contains, as usual, many interesting original articles on various subjects, besides several pages of miscellaneous scientific intelligence. Conducted by Professor SILLIMAN, B. SILLIMAN, JR., JAMES D. DANA. Terms, \$5 per annum—published every second month, at New-Haven.

QUARTERLY JOURNAL OF AGRICULTURE AND SCIENCE.—We have received the number for April, May, and June. Among other valuable articles, we notice particularly, one on the Agricultural Geology of Onondaga county, by Professor EMMONS—one on the spontaneous changes which Organised Matter undergoes when exposed to the action of Chemical and Physical Forces, by the same author—structure of Granite Mountains—Notes on Natural History, &c.

WASTE LAND IN IRELAND.

THE idea seems quite prevalent in this country that the miseries of the Irish population, are owing to the number of inhabitants being too great for the extent of territory. From the statistical returns, it appears that the population of Ireland is not now as great in proportion to the means of subsistence, or the production of food, as it was at the commencement of the present century. Improvements in agriculture have made very considerable progress on that Island within a few years; many acres of waste land have been reclaimed, and the production of other lands increased. But there is still a large quantity of waste land which is susceptible of

cultivation—not less, according to the government reports, than 5,000,000 acres.

Some years since, an association was formed under the name of the Irish Waste Land Improvement Society. From a notice of the fourth report of this society, which we find in the English *Agricultural Gazette*, it appears that several thousand acres of these lands have been brought into cultivation under the auspices of this society, and now furnish support to three thousand inhabitants. "They are now," says the account "pursuing their wonted avocations in order and peace, in the midst of the distress and consequent recklessness prevalent around them, with employment secured to them during the approaching trying season, and with every prospect of a supply of wholesome food for their support until the coming harvest."

If the Irish population could be employed and supported in bringing into cultivation their waste and unproductive lands, not only would their present miseries be alleviated, but an effectual safeguard would be provided against future scarcity and suffering. To this end, therefore, the Society mentioned is directing its efforts, and so far with very encouraging success and favorable prospects. Parliament has moved in the case, and has removed the principal legal difficulties which have heretofore obstructed improvement; so that in the language of the editor of the *Agricultural Gazette*, "it appears that there is hardly any country where the investment of capital in farming should pay so well as in Ireland."

REARING CALVES.

MR. BUCKMINSTER, the editor of the *Massachusetts Plowman* thinks—"a cow that makes a fat calf, must be presumed to give richer milk than a cow which makes a lean calf." A correspondent of the *Plowman*, LOVETT PETERS, Esq., of Westboro, Mass., disagrees with the editor. Mr. P. says—"As a general rule, it is no evidence that a cow which makes a fat calf is a good one for butter. Some of the best cows I ever owned never made fat calves; and those which gave poor milk for butter, if enough of it, made fat calves. It has been uniformly so."

In reference to the above, we would remark that the experience of several years, both in rearing and fattening calves for veal, has induced us to form nearly the same conclusions as Mr. Peters seems to have arrived at. Our best cows for butter have not made as fat calves at from four to six weeks old, as some whose milk was less rich. The reason probably is, that a large proportion of oleaginous matter is not adapted to the digestive organs of the calf at that early age. The milk of cows which are not so good for butter, may contain more *caseine*, or the substance of which cheese is formed, and as this is a nitrogenized substance, chemistry would teach that it would more tend to develop the muscular tissues. This may account in part for the more rapid growth of calves fed on such milk; though we have not only found them to grow better, but to be actually fatter at the age we have mentioned, than when fed on milk which was very rich in oil.

SELECTING COWS WHICH GIVE RICH MILK.—In the communication of Mr. PETERS abovementioned, he observes that he has discovered "a certain something which is a sure indication of the quality of the milk a cow will give. He says—"I am so certain of this, that I venture to assert that, I can go into a stock of ten cows, when they are in milk, and if there is one in the lot which gives richer milk than any other, I can find her, and without milking her. And so if any one gives poorer milk than any other. I suppose you will say this is all imagination, but depend on it, it is not so."

Query.—Has this "certain something" which indicates the quality of the milk anything to do with the direction in which the hair grows?

DIARRHŒA IN CALVES.—Two table-spoonsful of ground allspice, in three gills of boiling water, given once in two hours, will speedily effect a cure.

PRICES OF AGRICULTURAL PRODUCTS.

New-York, May 19, 1846.

COTTON—New Orleans and Mobile per lb., 6¼a10¼c.—Upland 6¼a9 cts.	
BUTTER—Goshen. per lb., 15a20c.—Dairy, 11a12¼—Store, 7a9	
CHEESE—Per lb., 7¼a8¼c.	
FLOUR—Genesee, per bbl., \$4 62a\$4.75—Ohio, <i>via</i> canal, \$4.56a\$1.46—Michigan, \$4.50a\$4.62—Orleans, \$4.31a\$1.37.	
GRAIN—Wheat, Genesee, per bushel, \$1.06a\$1.12¼—Illinois, 90a96 cts—Rye, per 56 lbs., 62a68c.—Corn, per 56 lbs., 62a68c.—Barley, 62a64—Oats, 44a45c	
HEMP—Russia, clean per ton, \$210—American water-rotted, \$130a\$180—dew-rotted, \$80a\$100—Manilla \$138a\$140.	
HAMS—per lb., 7a8 cts.	
BEEF—Mess, per bbl., \$7.50a\$8.25—Prime, \$5.00a\$5.50—Smoked beef, per lb., 6a6½ cts.	
LARD—6¼a7¼c. per lb.	
PORK—Mess, per bbl., \$11.37a\$11.50—prime, \$9.00a\$9.50.	
TOBACCO—Kentucky, per lb., 2¼a7c.—Virginia, 2¼a6¼c.	
WOOL—(Boston prices.) May 13:	
Prime or Saxony fleeces, washed per lb.	40a41 cts.
American full blood fleeces,	37a38 "
" three-fourths blood fleeces,	32a33 "
" half blood do	30a31 "
" one-fourth blood and common,	27a29 "

DURHAM STOCK FOR SALE,

THE subscriber has on his farm near this city, more stock than he needs, and will sell two two years old, and two yearling heifers, one yearling bull, and four spring calves. The price of the latter will be from \$50 to \$75 when about 3 months old, and the price of the yearlings and two years old, from \$100 to \$125.

This young stock was got by the prize bulls Duke of Wellington, and prize bull Meteor; both possessing the blood of the stock of the celebrated breeder, Thomas Bates, Esq., Yorkshire, England. The stock is out of first rate milking Durham cows, and will carry its own recommendation. GEO. VAIL.

Troy, June 1st, 1846—2t.

THE GENUINE WARREN PATENT (LATEST IMPROVED) HORSE-POWER AND THRESHING MACHINES.

THESE Machines are now so extensively known that it may seem superfluous to say more to the public concerning them. But as a very important improvement has been added this season, it is deemed proper justice to give notice of the same.

The two-horse machines are proved beyond question to be superior to any others known for the price—and now fully bear the warrant of giving entire and certain satisfaction in the following important particulars, viz: "That they are simple in construction, strong, durable, and not liable to break or get out of order; that they are safe and efficient in performance, threshing by the aid of two horses or oxen, and two men and a boy, 15 bushels of wheat, or 30 of oats per hour, in a thorough manner, and that they are easily portable in an ordinary wagon."

Price for the Power and Thresher, only \$75 at retail.

J. PLANT, sole proprietor,
No. 5 Burling slip, N. Y. City.

June 1—1t.

GENUINE MORGAN HORSES.

THE subscriber will offer for sale his stud of the choicest Morgan stock on advantageous terms, to those who may wish to grow profitable, enduring, high-priced horses, consisting of the following horses, viz: *Flint Morgan* and *Sherman Morgan, Jr.* Both were sired by old Sherman Morgan, the most distinguished horse of his times, and are not second as stock horses to any of this far famed race. *Flint Morgan*, I bought of Jonas Flint, Esq., of St. Johnsbury, Caledonia county, Vt., and *Sherman Morgan, Jr.*, I bought of John Buckminster, Esq., of Danville, Vt., there raised and known as the *Blanchard* colt, to which places persons are referred for their pedigrees and merits, as well as to testimonials in my possession; also to the counties of Strafford, Canol, Belknap, N. H., where their stock is highly approved and extensively known. Also, four breeding mares of this inestimable blood, viz: *Dolly*, *Kate*, *Fanny*, and *Adaline*, and all of which were sired by old Sherman Morgan, and are believed in foal. Their blood, power, and appearance, together with their stock already produced, favorably recommend them as breeders. Also, colts and fillies of various ages, may be seen at the stable of the subscriber; all of which will be sold collectively or separately to suit applicants.

JOHN BELLOWS.

Lancaster, Coos Co., N. H., May 1, 1846—3t.

100 DOZEN CAST STEEL HOES.

THE subscribers have on hand an elegant assortment of Cast Steel Hoes, highly polished, and finished in the best manner. Among them 50 dozen made by Henry Tower, of Milbury, Mass., of four or five different numbers and prices. Also several other kinds of neck and eye hoes. Merchants and others dealing in hoes are invited to examine them. E. COMSTOCK & Co.

Albany Ag. Warehouse, March 1, 1846.

GUANO,

BY the ton or hundred, or in smaller quantities, at 23 Dean-st. E. COMSTOCK & Co., Albany Ag. Warehouse.

UNITED STATES AGRICULTURAL WAREHOUSE,
191 Front-street (up stairs,) New-York.

THE subscribers having in connection with their manufactory opened a warehouse as above, respectfully solicit the attention of farmers and dealers in agricultural implements, who will find it to their interest to call and examine before purchasing, our extensive assortment of PLOWS, of the most approved patterns, made up in the best manner, and of superior materials, with castings for the various plows in use. Also

Straw Cutters,	Road Scrapers,
Fan Mills,	Ox Yokes and Bows,
Corn Shellers,	Forks, Rakes,
Corn and Cob Crushers,	Hoes,
Corn Mills,	Scythes, Snathes,
Horse Powers,	Shovels, Spades,
Threshers,	Churns, Wheelbarrows,
Harrowes,	Whiffletrees,
Cultivators,	Neck Yokes,

Ox and Trace chains, &c., &c., &c.

With an assortment of Trucks, Sugar-mills, Mill Gearing, Segments, &c., all of which are offered for sale at the lowest prices, and warranted to be as represented.

TRIMBLE & WATERMAN,

U. S. Ag. Warehouse, 190 Front-st, (up stairs,) N. Y.
Manufactory 502 and 504 Water-st.
May 1—2t.

LEWIS' SEED PLANTER,

Manufactured by E. Comstock & Co., Albany Ag. Warehouse.

THE above drill with several valuable improvements, making it beyond all question the best in use, will be ready for delivery early in April. In this drill are combined the qualities of the ordinary machines, enabling it to plant all the small seeds, together with carrots, parsnips, beets, peas, corn, beans, cotton, hemp, and indeed nearly all crops grown in drills. It is simple, and not likely to require repairs for a great length of time. It may be drawn by a horse, or (as it runs easy,) may be operated by one man, or he may have the aid of a boy for using in a garden or for short rows. Retail price \$12.00. To dealers a liberal discount will be made. E. COMSTOCK & Co.

April 1.

FOR SALE AT D. O. PROUTY'S AGRICULTURAL IMPLEMENT WAREHOUSE.
194½ Market-street, Philadelphia.

EVERY variety of Agricultural and Horticultural Implements in general use, of the most approved patterns and superior workmanship, at extremely low prices. A full supply of Prouty & Mears' Centre Draft, Self-Sharpening, Right and Left Hand, Sub-Soil and Side Hill, Wheel and Swing Plows, with points and shares so strong and thoroughly purified and hardened, that one hundred acres of land have often been plowed with a single set, at an expense of 50 to 62 cents. These plows are constructed of the best materials, and the highest finish, and for ease of draught and management, the facility with which their points and shares are turned and sharpened their eradication of weeds and thorough cultivation of the soil, they stand unrivalled in the market. They are warranted to work in any soil, and to give perfect satisfaction after fair trial, or they may be returned, when the purchase money will be refunded.

Agricultural, Horticultural, and Flower Seeds in great variety, raised expressly for this establishment by careful and experienced seed growers, and warranted.

May 1—2t.

LANGDON'S HORSE-HOE OR CULTIVATOR
PLOW.

THIS useful and highly valuable article may be had of E. Comstock & Co., at the Albany Ag. Warehouse, 23 Dean-st. Two sizes—one for \$7, and the other for \$6.

JUST PUBLISHED—PRICE 50 CENTS.

THE FRUIT CULTURIST, containing Directions for Raising Young Trees in the Nursery, and for the Management of the Orchard and Garden. By J. J. THOMAS. Illustrated with numerous engravings.

For sale, wholesale and retail, at the office of "THE CULTIVATOR," Albany, and by M. H. NEWMAN, Bookseller, 199 Broadway, New-York.

Notices of the Fruit Culturist.

"This is a very valuable work. It contains full directions for the cultivation of all the varieties of fruit grown in this country, and will be an invaluable aid to the orchardist and gardener."—*Roch. Dem.*

"This is a new and valuable work just issued from the New-York press, by our fellow-citizen, JOHN J. THOMAS, of Macedon. It is a convenient manual for the orchardist and fruit gardener, being adapted to the climate of the northern states, and should be in the hands of every man interested in these subjects."—*Wayne Sentinel.*

"We hail with real pleasure the appearance of this little work. It is a book 'for the million,' and just what is wanted by the multitude of persons who have a desire to cultivate fine fruits, and feel the need of knowledge on the subject, but cannot well afford to purchase Downing's admirable book."—*Ohio Cult.*

PATENT PREMIUM FAN-MILLS.

I. T. GRANT & Co., still continue to manufacture the celebrated Improved Patent Fan-Mills, at the old stand, Junction, Rens. Co., N. Y. These mills have taken the *first premium* at the following places:—New-York State Fair, at the Institute, New-York, the State Fair, at Pennsylvania, and the State Fair at Maryland. The subscribers have no hesitation in saying that these mills surpass anything of the kind ever offered in market. They are the only mill that has ever been produced that will chaff and screen wheat perfectly clean in one operation.

We also manufacture *Grain Cradles* of the very best quality, which have taken the first premium at the New-York State Fair. They are for sale at factory prices, at the following places:—

A. B. Allen's, 187 Water-st., New-York;

D. L. Clawson's, 191 " "

E. Comstock & Co.'s, Albany;

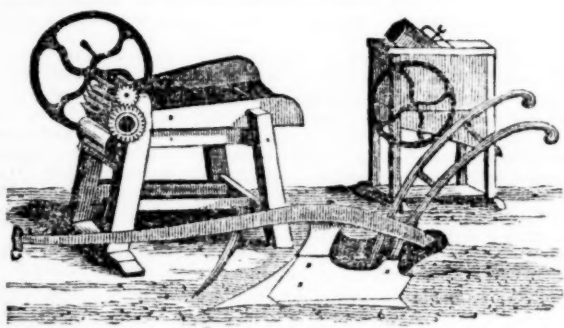
H. Warren's, Troy; and

Viall & Warren's, Mechanicsville, Saratoga Co., N. Y.

All orders thankfully received and punctually attended to. All goods delivered at Troy, N. Y., free of charge.

I. T. GRANT, & Co., Junction P. O., Rens. Co., N. Y.

Feb. 1—tf [2]



PROUTY & MEARS, BOSTON,

CELEBRATED, highly approved, and unequalled **CENTER DRAFT PREMIUM PLOWS**—for sale at their *sole agents*,

JOHN MAYHER & Co.'s

Agricultural Warehouse, 195 Front-st., near Fulton, New-York.

The subscribers have just received a large assortment of Prouty & Mear's celebrated and highly improved **CENTER DRAFT PLOWS**, which are in every way *superior to all others now in use*; and having been appointed sole agents for the sale of the same in the city of New-York, we invite the public to call and examine for themselves, as the above plows cannot be obtained at any other establishment in the city. Dealers and others in the country supplied on the most reasonable terms.

We also wish to inform merchants and farmers that we have constantly for sale plows of our own manufacture, and all others now in use.

The following is a list of prices of some of the plows manufactured by us.

A No. 1, Worcester patent,	\$1 50
A " 2, " "	2 00
A " 3, " "	2 50
2 B " " "	3 50
2 B " " with colter,	4 00
Eagle, No. 1, " "	4 50
" " 2, " " with colter,	5 00
" " 3, " " " "	5 00
" " 4, " " " "	5 50
Meadow C " " " "	5 50
" " " " " "	6 50

Castings to fit the Worcester Ploughs, 3½ cents per pound.

We likewise have for sale the most extensive assortment of *Agricultural Implements* ever offered in this city, most of which are new and highly improved patterns, warranted to be made of the best materials, and of very superior finish, among which are the following:

Pitts' Corn and Cob Crusher,	Sinclair's Stalk and Straw Cutter,
Hussey's " " "	Hovey's " " "
Sinclair's " " "	Stevens' " " "
Hussey's Reaping Machine,	Greene's " " "
Bark Mills, 4 sizes,	I. T. Grant & Co.'s Prem. Fan Mills,
Coffee " " "	Clinton's Prem. Fan-Mills,
Corn Shellers of all kinds,	Rice's " " "
Horse Powers " " "	Holmes' " " "
Threshing Machines " "	Store Trucks, Wheelbarrows,
Subsoil Plows, of the most approved kinds,	Mule Waggons, &c., &c.,
Cultivators of the most approved kinds,	

Langdon's much approved Cultivator Plows or Horse Hoe. All kinds of plow castings constantly on hand. All the above articles are offered for sale on the most reasonable terms. Castings of all kinds made to order.

JOHN MAYHER & Co.,
195 Front-st., N. Y.

N. B. Beware of Imposition. Any person offering plows for sale, and representing them to be of our manufacturing without the full name "**J. MAYHER & Co.**," on the mouldboard and beam of the plows, are guilty of a *false representation*, as no person in the city and county of New-York has the genuine article for sale but ourselves. April 1—tf [2]

J. M. & Co.

TREATISE ON MILCH COWS.

PUBLISHED on the first day of April, 1846, a *Treatise on Milch Cows*, whereby the quality and quantity of milk which any cow will give may be accurately determined by observing *Natural Marks or External Indications* alone; the length of time she will continue to give Milk, &c., &c. By **M. FRANCIS GUENON**, of Liborne, France. Translated for the Farmers' Library, from the French, by **N. P. TRIST**, Esq., late U. S. Consul at Havana, with Introductory Remarks and Observations on the

COW AND THE DAIRY,

by **JOHN S. SKINNER**, Editor of the Farmers' Library, illustrated with numerous engravings.

Price for single copies, neatly done up in paper covers, 37½ cents. Full bound in cloth and lettered, 62½ cents. The usual discount to Booksellers, Agents, Country Merchants, and Jobbers.

Farmers throughout the United States may receive the work through the mails. The postage on each copy will be about 7 cents. By remitting \$2. free of postage, we will send *seven* copies of the work done up in paper covers.

Country merchants visiting any of the cities can procure the work from Booksellers for those who may wish to obtain it. Please send on your orders. Address

GREELEY & McELRATH, Publishers,

April 1—3t

Tribune Buildings, New-York.

BURRALL'S CORN SHELLER.

THE subscribers are now fully supplied with this valuable Sheller so as to be in readiness hereafter to fill orders for any number, without delay. A further trial during the last month has fully established the superiority of this over all other Shellers for hand power. For description, engraving, &c., see *Cultivator* for February, page 60. Retail price \$10, with a liberal discount at wholesale.

E. COMSTOCK & Co.

Albany Agri. Warehouse.

March 1st, 1846.

VALUABLE FARM AND COUNTRY SEAT FOR SALE.

THE subscriber offers for sale the Farm on which he now resides, situate in Southwick, Hampden county, Mass. The road from Hartford to Northampton, via Westfield, along which a mail coach passes daily, and nearly through the centre of the Farm, which contains about 400 acres, nearly half of which is wood land, heavily timbered. It is bounded on one side by the Farmington canal, which renders the communication with New-Haven, an excellent wood market, easy and expeditious. The buildings are a mansion house, with a wing, the latter new, making a front of 70 feet. Also a house for a tenant; three large barns, nearly new, covered with pine and painted; a corn house, carriage house, sheds, &c. Great pains have been taken in selecting and cultivating choice fruit, and there is now on the Farm, in full bearing, a great abundance of the best varieties of apples, cherries, peaches, &c. A part of the land is of superior quality, and on almost every lot is living water.

Tariffville, a large manufacturing village, seven miles distant, affords a ready market for wood and every kind of produce, raised on a farm. This is one of the most valuable and desirable locations in the country, not only for farming purposes, but for the gentleman of leisure. A large portion of the purchase money, if desired, can remain for a term of years. I will sell the whole together, or in two parts. Letters of inquiry addressed to me, will receive prompt attention, or inquiry can be made of **LUTHER TUCKER**, Albany, or of **R. SHURTLEFF**, Springfield.

ROGER S. MOORE.

Southwick, March 1, 1846.—6t

AGRICULTURAL WAREHOUSE,

By **Ezra Whitman, Jr.**, 55 Light-street, Baltimore.

THE proprietor of this establishment is the sole agent in Baltimore and vicinity, for the sale of the following *new* and valuable improvements, viz:

Whitman's improved Rail-way Horse-Power and Threshing Machine, which threshes and cleans the grain at one operation.

Prouty and Mear's Centre Draft Plow.

Hovey's Premium Straw Cutter.

I. T. Grant & Co.'s Premium Fan-Mill.

Douglass' Premium Pumps, which are so constructed as to prevent freezing in the coldest of weather.

Rogers' Mill, for cutting and grinding corn stalks.

Together with a general assortment of the *latest* and most *approved* agricultural implements, constantly on hand, and manufactured to order.

EZRA WHITMAN.

Baltimore, Nov. 14, 1845.

DURHAM BULL FOR SALE.

THE subscriber (not having sufficient use for him,) offers for sale his imported, thorough bred Durham Bull, "**Prince Albert**."

He is five years old—a roan, of medium size—quiet in temper, and easily managed. For a portrait and description of this bull, see the August number of the *Cultivator*, and for his pedigree see the *British Herd Book*, vol. iv., page 382. His sire was the celebrated bull, "**Sir Thomas Fairfax**."

If not previously sold, he will be offered for sale at the next show of the New-York State Agricultural Society.

Letters on the subject may be addressed to the subscriber at Red Hook, Dutchess county, N. Y., where the bull can be seen.

Jan. 1, 1846.—tf

ROBERT DONALDSON.

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ROGERS' PATENT STEEL CULTIVATOR TEETH.

THE Cultivator is to a great extent superseding the use of the plow and harrow especially for working summer-fallows, &c., where complete pulverization is necessary. Its use has become very general in Western New-York, and has been attended with great advantages. Steel teeth may be had in any quantity of the undersigned at the Albany Agricultural Warehouse. Price for a set of nine teeth, \$5.00.

To manufacturers and dealers a liberal discount.

E. COMSTOCK & Co., 23 Dean st.

AGRICULTURAL MACHINERY.

THE following Agricultural Machines are particularly recommended to extensive Planters for great capacity, strength, durability, and performance. From our experience in their manufacture, and success attending sales of them the last ten years, we can safely recommend them to be equal, if not superior to other similar Machines made in this country, viz:

Lever Horse Powers, for 2 horses, with strength sufficient for draught for eight,.....	\$150
Lever Horse Powers, for 2 to 6 horses,.....	100
Endless Chain Horse Powers, No 1,.....	75
Do. do. do. No. 2,.....	100
Driving Leather Bands,.....	8 to 10
Threshing Machine, with 20 inch cylinder,.....	40
Do. do. do. 30 do.	60
Goldsbrough Corn Sheller and Husking Machine, very simple and excellent,.....	40
Pettigrew N. Carolina Corn Sheller,.....	80
Corn and Cob Crushers,.....	30
Corn Mills, for grinding fine or coarse meal,.....	40
Wheat Fans, (Rice's Patent),.....	25 to 30
Do. do. Watkin's extra,.....	45
Cylindrical Straw Cutters, for cutting straw, hay, corn-stalks, &c., (the medium size,) price,.....	30 to 40
Cylindrical ever cutting,.....	14 to 20
Hand Corn Shellers,.....	12 to 14

Also, plows of most approved construction, harrows, cultivators, grain cradles, and every variety of Farming and Garden Tools. Field and Garden Seeds, an extensive assortment.

See Catalogue for particulars.

R. SINCLAIR, Jr., & Co., Batimore.

June 1, 1846.—2t.

ALBANY AGRICULTURAL WAREHOUSE.

THE proprietors of the above establishment tender their thanks to those who have so liberally patronized them during the first six months of their business in Albany, and would respectfully announce to all who desire to encourage the manufacture and sale of improved implements and pure seeds, that their arrangements for future business are such as to afford the assurance that almost any article belonging to the agricultural trade can be furnished on the best terms.

We continue to give especial attention to the sale of IMPROVED PLOWS, and flatter ourselves that our assortment is fully equal, in point of style and finish, and particularly in their adaptation to different soils, and to all kinds of work, to any other establishment in this country. We have constantly on hand all sizes of the Worcester, Centre Draft, and Diamond plows; Subsoil plows, &c. Also Langdon's Cultivator Plow, and a good stock of Cultivators, Geddes' Harrows, &c.

Lewis' Seed Planter is manufactured expressly for us, and from a thorough trial this spring we think it altogether the best in use. It will plant all kinds of seeds at any required distance, and is not liable to get out of order. Price, at retail, \$15.

Haying tools, such as scythes, Snaths, Forks, Quinnebaug and Cummington Scythe Stones, Horse and Hand Rakes, &c., at wholesale and retail. Merchants are invited to examine our assortment.

Ames' Shovels and Spades, by the dozen as low as they can be had in N. Y.—A great assortment of Hoes of all sorts and prices.

Garden tools of every description, both common and extra finish. Pruning tools of all sorts, budding knives, caterpillar brushes, &c., &c. Dairy furniture, such as Churns, Tubs, Pails, and Butter Ladders; measures of all sizes both iron-bound and common; Scoop Shovels, and a general assortment of wooden ware. Mott's Agricultural Furnaces, from one-half barrel to four barrels. Well and Cistern Pumps, a superior article. Wheelbarrows of different sizes and prices, furnished cheap to contractors and others.

Grant's Fan-Mills, four sizes, Warren's Root Cutters, Hovey's Straw Cutters, Burrall's Corn Shellers, with nearly all the improved machines of the day. Ox Yokes and Bows. Tie-up chains, Halter, Trace, and draft chains. Bar pins, (a new article,) Rein Snaps, Ox Balls, Cattle and Horse Cards, Curry Combs, and Horse Brushes.

Guano, by the ton, hundred, or smaller quantity.

SEEDS of every kind and best quality always for sale. We would just now call attention to our stock of turnep seed, embracing a recent importation of Ruta-Baga, Strap Leaf, Flat Dutch, Flat Field, English Norfolk, Yellow Malta, Yellow Scotch, White Globe, Early Garden Stone, &c., &c. Sugar Beet, Carrot, and all other seeds, still on hand. Orders are respectfully solicited.

E. COMSTOCK & Co.

June 1, 1846.

VALUABLE FARM ON STATEN ISLAND FOR SALE.

THE well known farm of the late Samuel Akerly, M. D., situated on the South side of Staten Island, in the town of Southfield, Richmond county, in consequence of the decease of its late owner, is now for sale. It contains 125 acres, 25 of which are woodland; is in a high state of cultivation, and well stocked with a variety of fruit trees. The house has been recently enlarged—is ample and commodious; the barns are new, and the farm is in good fence. It has a wide front to the water on a bay which abounds with the best kind of salt water fish, also with clams and oysters, all easily procured fresh from their native element. The experience of a long course of years, for the main part of the dwelling house has stood for more than a century, has demonstrated that the situation is perfectly healthful.

The late owner, Dr. Akerly, died in July last; he had cultivated the farm for a number of years with great assiduity and care, keeping a daily and most minute register of the precise amount of labor and cultivation bestowed on each field, and noting many important observations which would be highly instructive and useful to the future owner. The purchaser may be furnished with a copy of this diary.

The site of this farm is extremely beautiful—the approach to it from the main road is a private road of about half a mile in length, running mostly through a piece of woodland, consisting of young timber of vigorous growth. After the visitor has travelled on this road about one-third of a mile, there opens upon him a prospect which takes in the low land, comprising the cultivated part of the farm—the placid and bright bay which separates Staten Island from Monmouth county, N. J.,—the highlands of Neversink, with the two lighthouses erected thereon—the lighthouses on and near Sandy Hook, together with the one at Prince's Bay, including the west end of Long Island. All the vessels employed in the commerce of New-York with foreign countries may be seen as they come in and depart, from the dwelling house and several other points on the farm.

The late owner, Dr. Akerly, who was born and educated in this city, after extensive examination and inquiry for a farm to which he might retire, on account of impaired health, selected this spot, to which he removed in the year 1839. Here he sought health and quiet retirement, and found them, until the day before his decease. He became exceedingly attached to the farm as a residence, and would have most reluctantly exchanged it for any other residence whatever. Such were its attractions that he never left it a single day, in winter or summer, but with regret.

For further particulars apply to HIRAM KETCHUM, Executor, No. 31 Wall st., or SAMUEL BOWNE, No. 83 John-street July 1, 1846.—3t.